

MOTOR AGE

c 2



JULY 1948
A CHILTON PUBLICATION

HASTINGS MICHIGAN

Dear Joe:

You don't have to cross your fingers and hope for results when you use the Hastings Spot Check campaign. It was tested before being put out nationally. Spot Check works.

IT Works because your customers get -- at no cost --- an expert motor check-up. This doesn't take much of your time but gives them a valuable car ~~prefer~~ performance report.

You'll cash in, Joe, when you use Spot Check.

Tough Guy



YES, SPOT CHECK IS THE TESTED BUSINESS-GETTER

It's the campaign that really works because Hastings provides everything to help bring the business into your shop.

Merchandising Unit No. 1 features a Spot Check electric sign and includes two posters, and 100 Spot Check forms.

Merchandising Unit No. 2 features 100 post cards with your name imprinted and includes two post-

ers, 50 dash tags, and 100 Spot Check report forms. Other merchandising units will follow. Spot Check means more business. It lines up new customers . . . reveals the need for repairs and parts . . . builds good will.

Ask your jobber-salesman to tell you how to get your No. 1 Spot Check merchandising unit.

HASTINGS MANUFACTURING CO. • HASTINGS, MICHIGAN
HASTINGS, LTD., TORONTO
PAT. 2,148,997

NATIONALLY ADVERTISED—Repairmen using Spot Check have the power of The Saturday Evening Post, Country Gentleman, Popular Mechanics, Successful Farming and Progressive Farmer behind their personalized merchandising program.

SPOT CHECK PROMOTION—Complete merchandising plans include Spot Check electric signs, posters, Spot Check forms, dash tags, direct mail—everything is supplied to get your business in Hastings' great service-selling campaign.

HASTINGS STEEL-VENT PISTON RINGS

Tough on oil pumping. Gentle on cylinder walls



JULY,

Essential

... for Leak - Proof, Pressure - Tight
Automobile Assemblies!

All three Permatex Form - A - Gasket Sealing Compounds make every type of assembly leak-proof and pressure-tight . . . be it threaded, flat or flanged. They all prevent corrosion and are leak-proof to gasoline, fuel oils, lubricating oils, hot or cold water, all types of anti-freeze and numerous other liquids and gases. Use the one that best fits the job.

Permatex Form-A-Gasket No. 1 (a paste) dries fast and sets hard, but never becomes brittle. Makes tough, permanent unions even with warped or pitted surfaces.

Permatex Form-A-Gasket No. 2 (a paste) sets slower than No. 1. Dries to a tough, pliable film with plenty of "cushion" to absorb continual vibrations . . . yet disassembles easily.

Permatex Aviation Form-A-Gasket No. 3 (a brushable liquid) quickly dries to a tacky paste. Since it acts as a lubricant before it seals, threaded connections can be tightened up all the way without binding. Unions are easily disassembled. Will not run at 400° above nor become brittle at 70° below.

May Be Used With or Without Old or New Gaskets

Order Through Your Auto Supply House
We Invite Your Further Inquiry

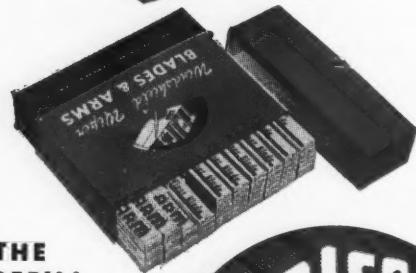
PERMATEX COMPANY, INC. BROOKLYN 29, N. Y.

"Coming right up" SAYS I

... and the sale was made



Cabinet occupies only 9-1/4" x 14" of space. Original assortment contains 40 Blades and 8 Arms . . . PLUS 8 "bonus" Blades.



THE
REFILL
CARTRIDGE



Windshield Wipers
Trico Products Corporation, Buffalo 3, N.Y.



Here before your eyes is the handsomest auto cable you ever saw: Blue Streak Vinylite auto cable! And handsome is as handsome does: it's another one of those Blue Streak surprises.

You've heard about Vinylite — the tried-and-tested, grease-resistant, flame-resistant, water-repellent, tougher-than-mule-hide plastic. It's a natural for insulation, and Blue Streak thought of it first for auto cable.

See the slender, spaghetti-thin strand. Quite a change from the heavy conventional cable. Picture the way this sleek, polished Vinylite covering slips through a conduit. Then imagine this cable in colors — 8 vibrant colors: orange, yellow, green, blue, purple, rich brown and jet black. It's a sight simpler to trace a wire; you can count on that. Your jobber can give you complete information on gauges, colors and prices. Why put off a good thing for tomorrow when you can have it today?

better your business...buy Blue Streak

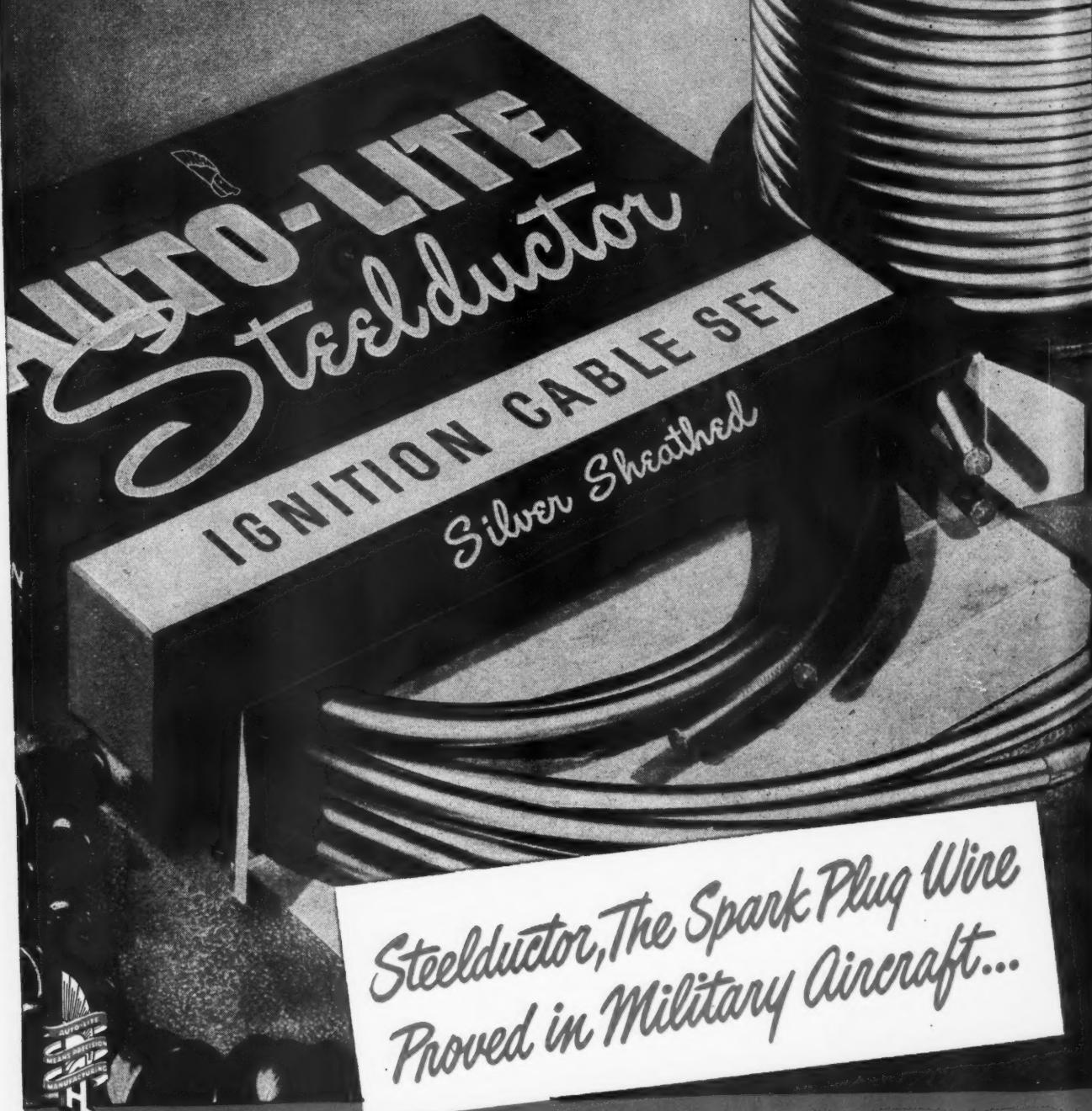
S T A N D A R D M O T O R P R O D U C T S , I N C . , L O N G I S L A N D C I T Y 1 , N E W Y O R K

JULY, 1948

When writing to advertisers please mention Motor Age

MOTOR AGE, Vol. LXVII, No. 8. Published monthly by Chilton Co., Chestnut & 56th Sts., Phila. 39, Pa. Entered as Second-Class Matter December 27, 1935, at the Post Office at Philadelphia, Pa.; Under the Act of Congress of March 3, 1879. In case of Non-Delivery Return Postage Guaranteed. Subscription price: United States, Mexico, United States Possessions, and all Latin-American countries, \$3.00 per year. Canadian and foreign, \$5.00 per year; single copies, 40 cents.

SELL THE SPARK PLUG WIRE



AUTO-LITE

When writing to advertisers please mention Motor Age

MOTOR AGE

JULY

THAT PEOPLE KNOW!

Tune in "Suspense," the Auto-Lite Radio Show—every Thursday night, 9 P.M.—E. T. on CBS.

Switch to AUTO-LITE Steelductor SPARK PLUG WIRE

[PROMPT DELIVERY]

Backed by the best advertised name in the automotive after-market

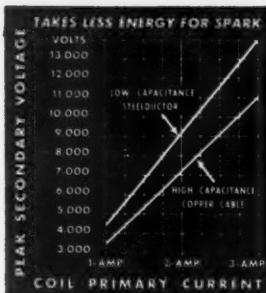
AUTO-LITE Steelductor became famous in military planes for its many advantages. Money cannot buy spark plug wire that gives greater resistance to heat, moisture, oil and abrasion. In a shielded circuit, Steelductor reduces capacitance to protect the vital spark, delivers from the same primary current higher secondary voltages. And remember, when you sell Auto-Lite Steelductor you get the advantage of the best advertised name in the automotive after-market. For complete information see your distributor or write to

THE ELECTRIC AUTO-LITE COMPANY

Merchandising Division

Toronto, Ontario

Toledo 1, Ohio

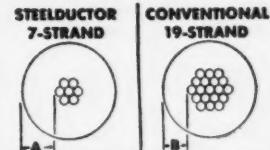


VOLTAGE

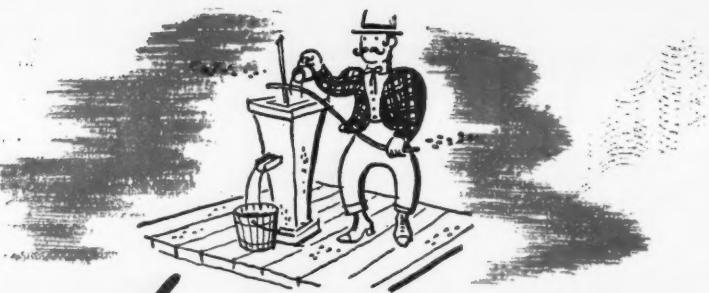
Diagram at left, based on an average spark plug wire in a metallic shielded circuit approximately four feet long, shows Steelductor gives the same peak voltage as conventional copper cable on considerably less primary coil current. Or, with the same primary coil current, it produces peak secondary voltages approximately 25% higher.

CAPACITANCE

Capacitance of high tension cable varies with the distance from the surface of the conductor to the grounded metallic conductor in which the cable is encased. As this distance is increased capacitance is decreased. In diagram at right, note "A," the distance from the surface of the conductor, is greater than "B"—hence Steelductor's lower capacitance.



Wire & Cable



Priming the PROFIT PUMP

Profit-wise dealers everywhere depend upon factory-tested Airtex Fuel Pumps for important customer goodwill. They know that sturdy, precision-built Airtex Pumps give efficient, satisfying service under all driving conditions. Tests show instant diaphragm flexings at temperatures as low as — 30° F. . . . quick cold weather starting. Rugged non-porous castings and exclusive Airtex "Tight-Seal" valves insure continuous, leakproof performance. Begin priming your profit pump by making your next fuel pump installation an Airtex.

AIRTEX *Factory Tested* FUEL PUMPS



ASSEMBLED WITH AIRTEX DIAPHRAGMS
GUARANTEED FOR 50,000 MILES

AIRTEX AUTOMOTIVE DIVISION
Chefford Master Mfg. Co., Inc.
FAIRFIELD ILLINOIS

YOUR PROFITS CLIMB
WITH THE AIRTEX LINE



Install an AIRTEX Gasoline Filter-DAMPER with every carburetor or fuel pump job.

When writing to advertisers please mention Motor Age

MOTOR AGE

JULY,

*There's a
DELCO-REMY COIL
that's right for each job*



When you have the Delco-Remy line, your coil problems are simplified. With a minimum number of models you will always have a coil that's right for any of the millions of Delco-Remy-equipped vehicles, new or old. And what's more, you will have the parts required for correct and speedy installation.

Delco-Remy ignition coils are tops in design, in quality of materials, and in workmanship. They are packaged in individual sealed containers, complete with mounting bracket and adapter.

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA



DELCO-REMY—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

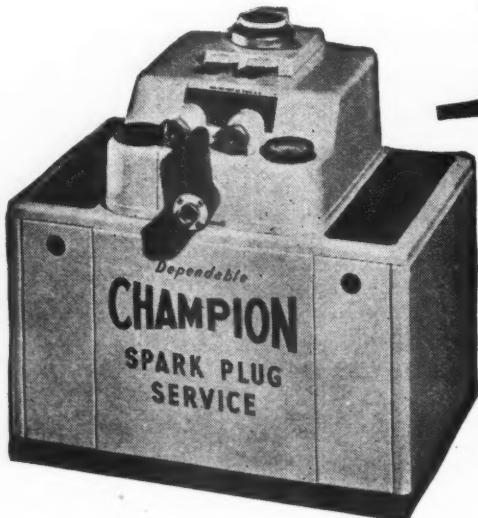
WHEREVER WHEELS TURN OR PROPELLERS SPIN

Choose the Delco-Remy line for a sure supply of all the electrical parts you may need—not only the fast-moving parts, but also parts to meet all your replacement requirements.



The Perfect "AMERICA'S SPARK PLUG"

- and the
Series 500



**Get Profit Combination
S' FAVORITE
X PLUG"**

Service Unit

NOW SETTING NEW SALES RECORDS EVERYWHERE

CHAMPION SPARK PLUG COMPANY

**A BIG HIT!
FOR BIG PROFITS!
IN A BIG
MARKET!**

NEW

HARRISON

HEATERS and DEFROSTERS

**IMPROVED IN DESIGN AND CAPACITY
SIMPLIFIED FOR EASY INSTALLATION
PRICED FOR SURE SALES**

Here is a line of heaters and defrosters that is *complete*—to cover a wide range of car and truck requirements.

Here are units improved in appearance, in heat output, and in ease of installing.

Here is a volume line in a huge market, fitting practically all cars built since 1940. And here is the line that is priced lower, to capture the market and swell your profits.



NEW COMBINATION SUPER DASH HEATER-DEFROSTER

This unit has everything—as a heater, as a defroster, as a sure-fire money-maker for dealers—with an all-copper tube and center type core, the largest capacity motor we have ever put in a heater, an 8-inch propeller fan, and larger defroster take-off tubes.



DEFROSTER

For use with an underseat heater. Easily installed on the dash. Circular heater core, double outlet, powerful motor. Heat output is nearly as great as that of a small car heater.

ADVERTISING AND POINT-OF-SALE HELPS

To help you increase your heater sales, a complete merchandising program—including colorful counter displays, window streamers, consumer folders and newspaper mats—is available. Call your United Motors distributor and get the details on the fast-moving Harrison line.



**HARRISON HEATERS
A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS**



HARRISON

**HARRISON RADIATOR DIVISION
GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK**



TODAY the petroleum industry is going all-out to meet the greatest demand in its history. You can help conserve gasoline during this "tight" period by assisting car owners in getting more miles from every gallon of fuel. As part of your tune-up service, set the timing of your customers' cars to take complete advantage of high quality gasoline stepped up with "Ethyl" antiknock compound—give them all the power and performance their cars can deliver. Ethyl Corporation, New York 17, N. Y.

25 years' service to America's progressive petroleum industry

Products sold under the "ETHYL" trade-mark—Antiknock Compound... Salt Cake... Ethylene Dichloride... Sodium Metallic... Chlorine (Liquid)... Oil Soluble Dye

JULY, 1948

When writing to advertisers please mention Motor Age



RADIOA

1250

- July 8 Cary Grant in "The Last Chance"
July 15 Ida Lupino in "Summer Night"
July 22 Douglas Fairbanks Jr. in "Deep into Darkness"
July 29 Agnes Moorehead in "The Yellow Wallpaper"



ROADVENTURE AT ITS GREATEST!

GIANT!

starring America's finest dramatic actors
on the air for

AUTO-LITE

SPARK PLUGS • BATTERIES • IGNITION SYSTEMS

Every Thursday 9⁰⁰ P.M. E.D.S.T. 156 CBS Stations

**CONVENIENT • BRILLIANT
ODORLESS • EFFECTIVE AND
SAFE TO CARRY AND USE**

Grote

FLAMELESS FLARES

New and better construction — more compact, space-saving design — but still equipped with the brilliant, shatterproof Plexiglas reflectors. This new flameless flare can't fail — needs no dangerous fusees or flame — just open the handy container, set out the flares and be safe at any stop with the Brightest Spot on the Road.



SET OF THREE, DOUBLE-FACED FLARES,
COMPLETE IN
STURDY CARRIER

\$9.50
LIST

Flags and metal staffs for the built-in flag holder can be supplied at small extra cost. Order from your jobber.



the Brightest Spot on the Road

THE GROTE MANUFACTURING CO., INC. - BELLEVUE, KY.
Pioneers in Plastic Automotive Lenses



Willard

"SAFETY-FILL" BATTERIES

Sell Quicker, Easier at Greater Annual Profit!



WILLARD STORAGE BATTERY COMPANY

Cleveland • Los Angeles • Dallas • Memphis • Portland • Toronto

Service . . .

AIR HOSE COUPLING

brings 'em back

HANSEN

air service equipment

Good service brings customers back to your station because they like to get clean-cut, efficient service, and get on their way. Hansen equipment has proved to give that kind of service over a long period of years—the kind of service that "brings 'em back".

Hansen Shut-off Coupling (Series 1000) is the most widely used air hose coupling today. Car lifts, air hose, grease guns, spray cleaners, blow guns—are improved with Hansen couplings. Quick-connect and disconnect by sliding a movable sleeve. Complete swivel action. Pipe, hose stem or hose clamp connections.

Hansen Jet Oiler—the most popular oiler in use today because it is most efficient. It projects a solid stream of light or penetrating oil when the plunger is depressed. Design allows easy movement in any direction. For protection against breakage and dirt, all pump parts are enclosed in the handle. One quart capacity.

Hansen Sand Blast Cleaner is a simple, efficient unit for removing carbon from parts, paint and rust from body, parts and fenders, and for any number of similar jobs. Operation is very simple. Tip is hardened steel. Valve can be used as quick detachable blow gun for blowing air only.

Write for Automotive Catalog

HANSEN REPRESENTATIVES

New England States . . . A. D. Geiger, Belmont, Massachusetts	Northern Cal., Nevada . . . H. E. Linsey Company, Oakland, California
Southern Ohio, W. Va., Ky.: Steinhegen Arlane Products, Dayton, Ohio	Michigan . . . William H. Nash Company, Detroit, Michigan
Eastern, Southern States B-R Engineering Co., Baltimore, Md. Colorado, New Mexico, Utah, Wyoming: E. C. Wild Co., Denver, Colorado	Indiana, Wisconsin . . . Neff Engineering Company, Ft. Wayne, Indiana
Southwest Territory . . . C. C. Brownfield, Dallas, Texas	Northern Illinois, Eastern Iowa: Walter Norris Engineering Co., Chicago, Ill.
Arizona, So. California . . . Burklyn Company, Los Angeles, California	Northern Ohio: F. & W. Urnes Company, Cleveland, Ohio
Idaho, Oregon, Washington . . . Jack J. Kolberg, Seattle, Washington	IN CANADA
Central Western States . . . John Henry Foster Company, St. Louis, Missouri, Minneapolis, Minnesota	Province of Ontario . . . John Best Associates, Toronto, Ontario
	Eastern Canada . . . Cowper Company Ltd., Montreal, Quebec

NO. 82
JET OILER

NO. 37
**SAND BLAST
CLEANER**

THE HANSEN  **MANUFACTURING COMPANY**

4031 WEST 150th STREET • CLEVELAND 1-1, OHIO

Now it's here! THE NEW WHIZ WAY

To Make Positive Vulcanized Tube Repairs!

Here's the greatest vulcanizing discovery in twenty years! It's the new Whiz Rubber Patch Vulcanizing Kit! It's *really* new . . . *really* different!

- ★ Amazing new heating element ignites quickly—wet or dry!
- ★ Safer, surer repairs through controlled heat diffusion and higher vulcanizing temperatures!
- ★ Provides better vulcanized repairs of rips, tears, and punctures!
- ★ Permits any size of repair from one supply of rubber!
- ★ Excellent for both synthetic and natural rubber products.

The new Whiz Patch Vulcanizing Kit comes complete with a roll of Whiz quality patching rubber and a supply of the radically new Whiz Heating Elements. This new kit can be used with *any* standard size vulcanizer! The special introductory offer includes *at no extra cost* patch scissors, buffer, and special vulcanizing pans that can be used over and over again. See your Whiz jobber *today* for the full story of this amazing new way to make *vulcanized* tube repairs. *R. M. Hollingshead Corporation. General Offices: Camden, New Jersey. Canadian Offices: Toronto. Warehouses: Dallas, San Francisco, Chicago.*



A PRODUCT OF
Hollingshead
LEADER IN MAINTENANCE CHEMICALS



You are invited
to investigate the Profit Advantages
of the
Prest-o-Lite Hi-Level Battery

PREST-O-LITE BATTERY COMPANY, INC. • TOLEDO 1, OHIO

You add water



only 3 times a year... lasts longer too!

IN NORMAL CAR USE



for Safety's Sake.. YOU CAN'T BEAT THIS WAGNER COMBINATION!



REFILL with **Wagner** LOCKHEED HYDRAULIC BRAKE FLUID

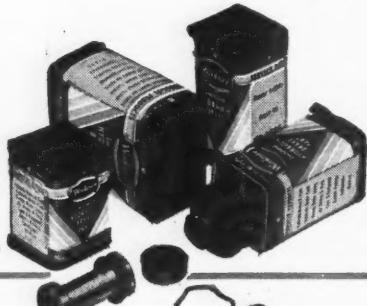
It is an all-season brake fluid that mixes with all other approved brake fluids. It is unsurpassed for dependable performance, and recommended for all hydraulic brakes. Used as original fluid by car and truck manufacturers.



RELINE with **Wagner** CoMax BRAKE LINING

Unsurpassed for quick, safe, smooth stops. Long-lived because the ingredients wear slowly; it doesn't compress or swell; has uniform frictional qualities. The CoMax line provides *complete coverage* for *all* brakes. Produced in rolls, blocks, sets or slabs.

REPAIR with **Wagner** LOCKHEED BRAKE PARTS



Recommended for superior quality, perfect fit, and dependable performance. Backed by Wagner's years of experience in designing and manufacturing brakes for original equipment. Available either in complete kits of essential parts for each specific job, or as completely assembled cylinders, through Wagner jobbers everywhere.

Wagner Electric Corporation

6498 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.

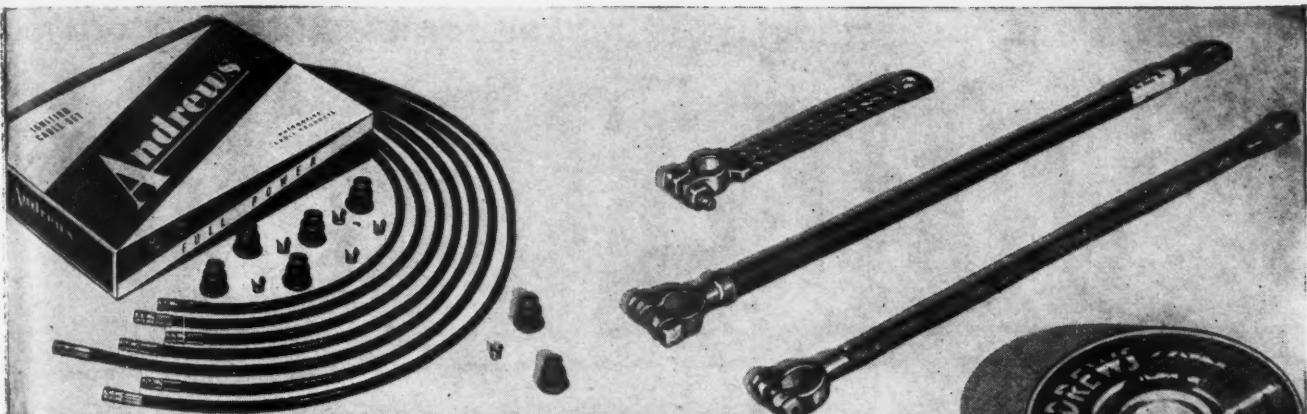
EVERY REPAIRMAN NEEDS Bulletins HU-17G and HU-197 . . . Tips for better Brake Service—free on request.

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • Norel CoMAX BRAKE LINING • AIR BRAKES • TACHOGRAPHHS ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES



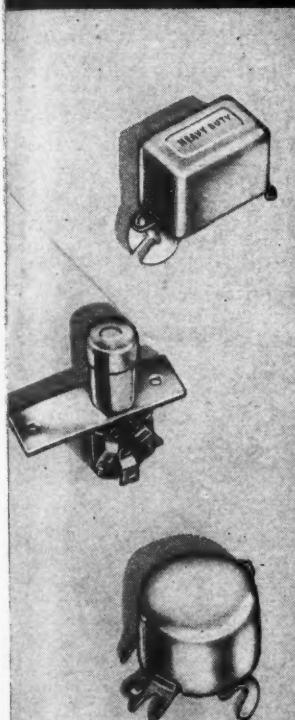
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THE ANDREWS LINE . . .

Your Best Electrical Connection



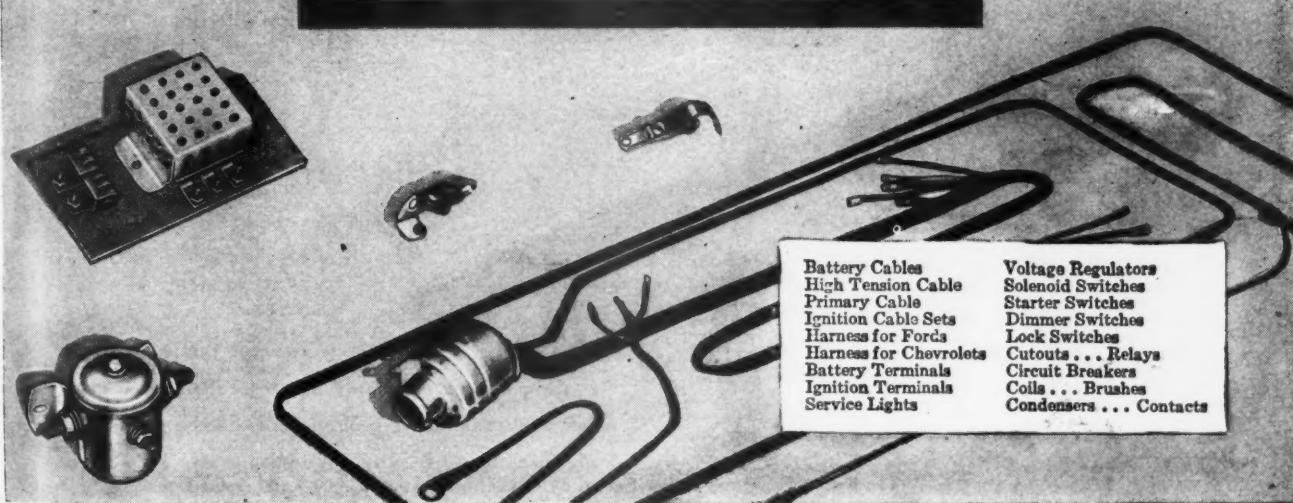
AVAILABLE NOW!

All Popular Types

WRITE FOR NEW COIL
CATALOG AND PRICES!

Andrews
MANUFACTURING CO.
ST. LOUIS, MO.

Customer Satisfaction Since 1921



Battery Cables
High Tension Cable
Primary Cable
Ignition Cable Sets
Harness for Fords
Harness for Chevrolets
Battery Terminals
Ignition Terminals
Service Lights

Voltage Regulators
Solenoid Switches
Starter Switches
Dimmer Switches
Lock Switches
Cutouts . . . Relays
Circuit Breakers
Coils . . . Brushes
Condensers . . . Contacts

Here's a Fast-selling Profit-maker for all Service Stations,

The
NEW

WALKER Vertilift

THE JACK THAT *Revolutionized TIRE CHANGING*

Here is the finest under-axle jack ever built. Here is a precision-engineered, precision-built passenger car jack that makes raising a car wheel so easy your customers won't believe it's true 'till you have them try it. *Vertilift* is simple to use. No fuss, no cuss, no muss. Under and up—without even a shifted necktie.

Never before has it been possible to combine such low starting height and ample power raise with such easy handle effort, in a mechanical jack. And from starting point, to full height,

the rise of *Vertilift*'s cap is truly vertical. This preserves without disturbance, the cap's original full firm grip on the load.

Vertilift is a new concept in passenger car jacks destined to obsolete all previous mechanical designs by its advanced and progressive principles. It is another product of the engineering "know-how" that has made Walker the leader in jacks.

Here is the jack your customers have always hoped for . . . styled and built for proud ownership through years of rugged service.

WALKER MANUFACTURING CO. OF WIS. • RACINE, WISCONSIN
Also Makers of Walker Silencers and Electric Lifts



Car Dealers, Garages

No. 120



Works so easy that even a woman can use it

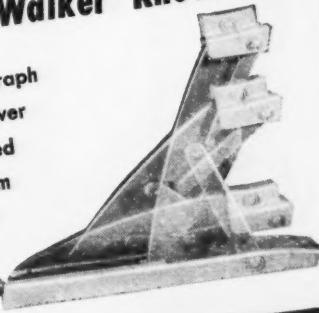
All it takes to raise a car wheel with Vertilift is a few oh-so-easy turns of the long-handled crank. No squatting or arm-stretching . . . no fuss or muss.

OTHER FEATURES

- SLEDGE TYPE PROW—Here's fast, easy placement on any surface, even snow, soft dirt, or cinders!
- LARGE, RUGGED, NON-SKID SADDLE—"Finds" the axle; takes hold, holds on!
- "LANDING BARGE" BASE—The largest, most stable lifting foundation of any passenger car jack ever developed!
- SURPRISINGLY COMPACT—A beautiful piece of machinery . . . a beautiful piece of merchandise!

Entirely New "Cantilever Action"
Developed by Walker Know-How

Multiple exposure photograph shows how the full cantilever arm moves as the "Inclined Booster Plane" mechanism helps the load over the most critical point in the lifting range.



WALKER leads in JACKS



No. 647

Lifting Capacity
1 TON

The New WALKER "Positive Action" Mechanical Type Bumper Jack

Packed with great, new, sales-boosting features

Here's an advanced bumper jack that's a sure-fire profit maker. Going up or coming down, its proven, positive "click" action inspires user confidence. Its new Walker-developed "Rigid-Tube" section, replacing the outmoded solid rack bar, combines increased rigidity with lighter weight. Large, strong, "gravity-centered" base assures greatest possible stability and safety. Here is a bumper jack chock full of "sell."

SELLS FOR \$5.75 • COSTS YOU \$4.00 • YOUR PROFIT \$1.75

Revolutionary
NEW

LIFT-POST*

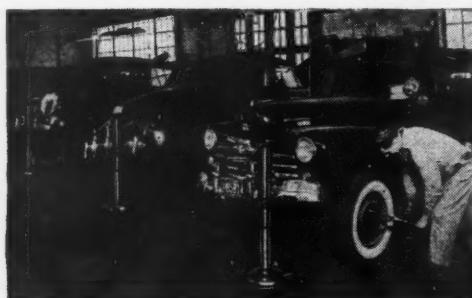
- A Portable Lift for Every Lifting Service
- A Profit-Maker for Every Shop



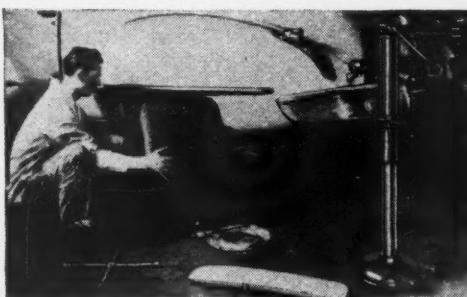
The First New Idea in Lifting Power in 15 Years

LIFT-POST is the most versatile unit on the market. It handles all cars — serves as an auxiliary lift — saves you hundreds of dollars in equipment. It is an entirely new concept in lifting power.

A must in every shop and service station — it's usable everywhere. It rolls to the job, is placed and in operation in a few seconds. It opens a world of new opportunities for faster, better, easier work — extra profits. Nothing can touch it for dependable utility.



IDEAL FOR INDIVIDUAL MECHANIC'S USE. Gives mechanics elbow room to work — does not take up floor space. It's dependable and safe, too. And there's no tripping hazard from extended handles.

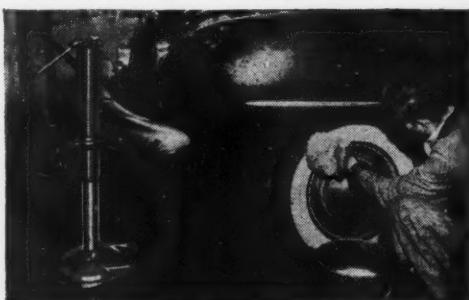


FASTER TIRE AND WHEEL CHANGES. Lifts deep-skirted fenders above tires! Exposes full wheel! No time wasted positioning jack under car — lifts at any convenient spot — bumper or bumper bracket.

Just look at the uses shown here — add to these the barrage of other uses they bring to mind and you have a few of the staggering list of profitable uses you'll find for **LIFT-POST**.

For every department **LIFT-POST** supplies tons of power and universal versatility at only pennies of cost.

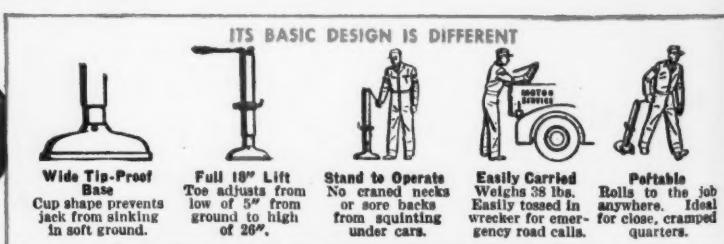
* There is only one **LIFT-POST** — it is an exclusive, NEW Blackhawk Product. Get your order in fast with your Blackhawk Jobber because **LIFT-POST** is a positive sensation!



WATERPROOF AND FOOLPROOF FOR WASH RACKS. Water or dirt can't hurt it. Working parts are fully enclosed. Makes it easy to get at and clean under fenders. Note close quarters.



BODY AND FENDER WORK. Lifts body and fenders high enough to allow maximum space for body men to see what they are doing and to remove smash and dents safely, conveniently and comfortably.

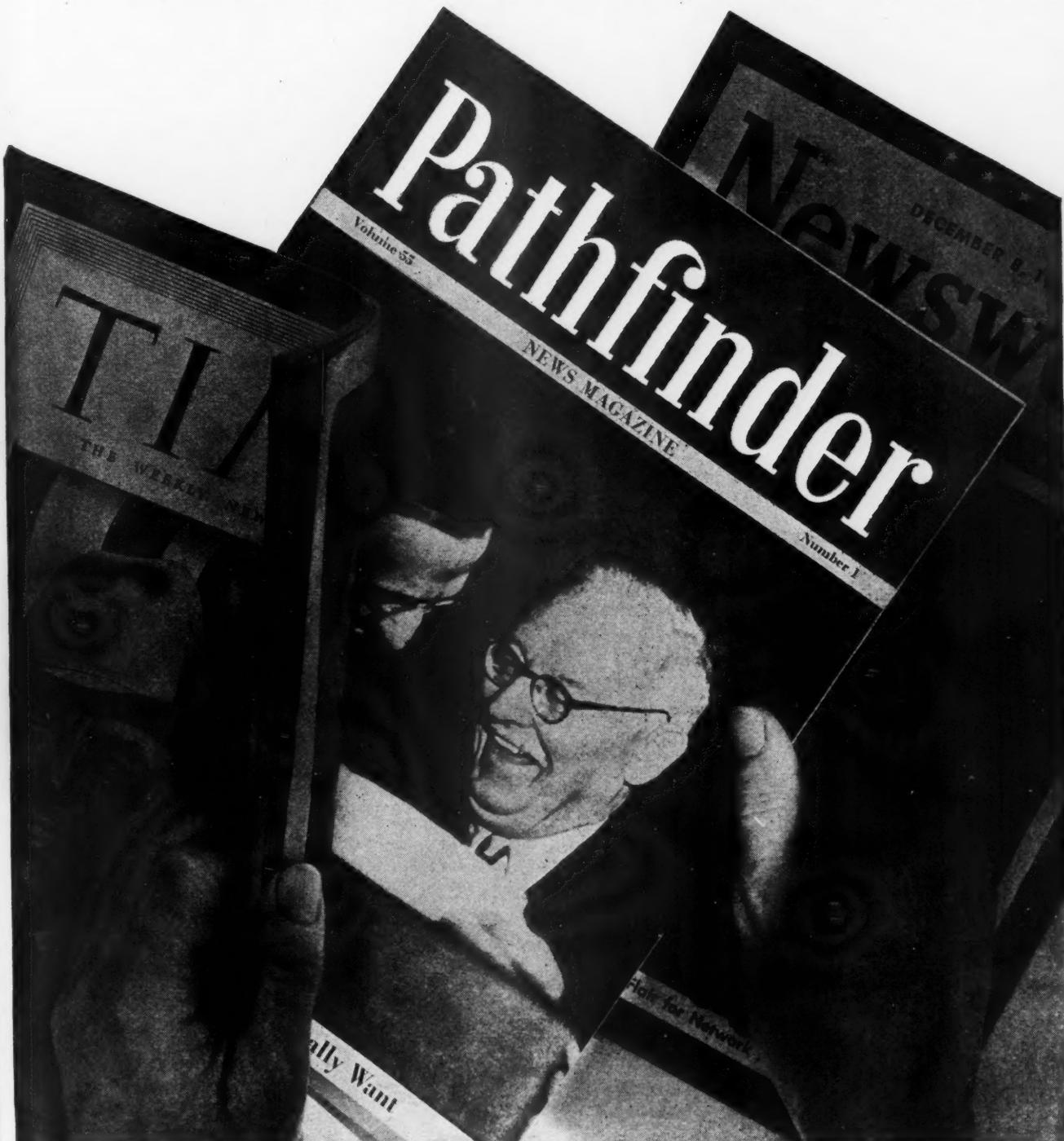


A Product of **BLACKHAWK MFG. CO.**, Dept. J-678, Milwaukee, Wis.

BLACKHAWK

America's Second Largest News Magazine!

OVER 1,000,000 CIRCULATION OF HOMETOWN LEADERS



Also publishers of FARM JOURNAL—**BIGGEST in the country**



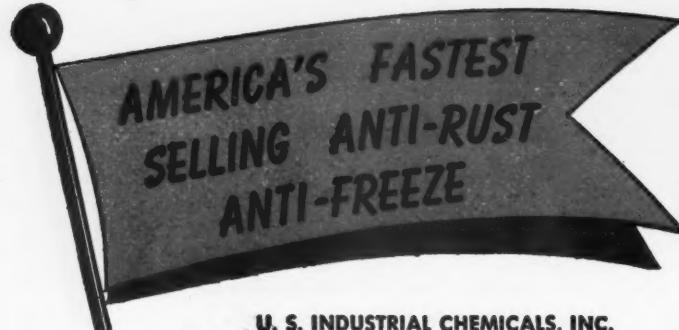
Super-safe

You know what happened last year—so play it SUPER-SAFE this year by ordering your supply of SUPER PYRO now!

Yes—there will be more SUPER PYRO this year, but still not enough for everybody because the popularity of this SUPER-SAFE Anti-Freeze is growing by leaps and bounds.

And another smashing campaign of SUPER PYRO advertising in magazines—in newspapers—on posters will further increase the demand for this famous SUPER-SAFE anti-freeze!

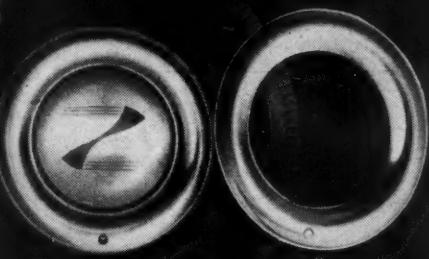
Don't wait—call your jobber quick for your supply of...



U. S. INDUSTRIAL CHEMICALS, INC.



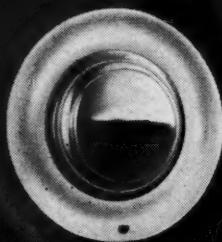
DON'T DICTATE STYLE... OFFER A CHOICE



Exactly the same design as the Lyon Whitewall, but made of highly polished stainless steel. Three sizes for 16" wheels—two sizes for 15" wheels.

List price \$11.95 per set of four.

The Smart New Wheelwall



Now on over 4,000,000 cars—in a new improved design to accommodate wheel weights and absolutely prevent curb-scuffing.

List prices: Standard steel model (16" wheels) \$6.95 per set of four.
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\$9.95 per set of four. Sets
of five priced higher.

America's Favorite Whitewall

The New Deluxe Wheel Cover

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ACCESSORIES



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58 Wrenches Complete in
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Drives: 1/4, 3/8, 1/2 and 3/4"

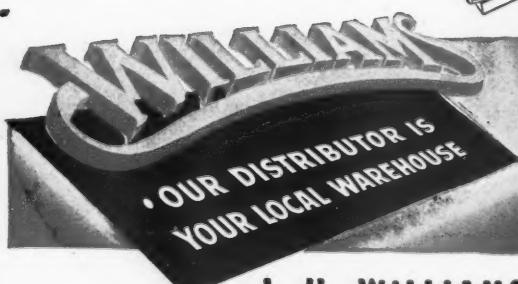
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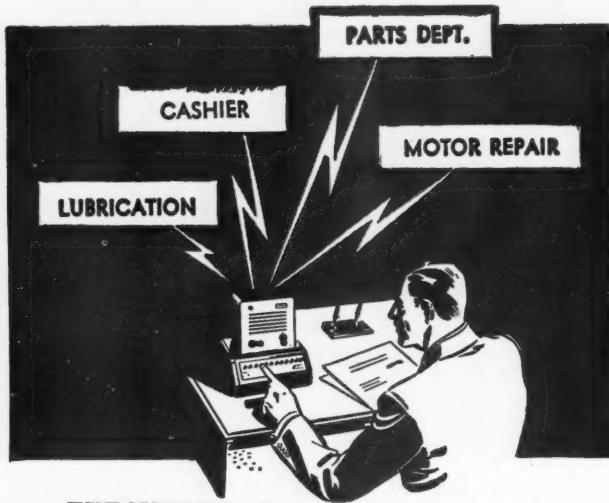
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FOR AUTOMOTIVE SERVICEMEN

VOL. LXVII, No. 8

July, 1948

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for greater tension flexibility in tapered and out-of-round bores plus greater bearing area for longer spring and ring life.

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BEST IN NEW CARS! BEST IN OLD CARS!

Dateline **DETROIT**

by Leonard Westrate



All major automobile companies have raised prices following wage increases. GM has not raised passenger car but has increased truck prices. It is questionable whether GM will hold the price line on present models for very long, however.

Other automobile manufacturers have given no indication of whether they intend to follow Ford's lead in reducing the dealer's margin of profit. Ford fixed gross profit on new 1949 Ford cars only at the same dollar level prevailing on the previous model, despite an increase of 8.7 per cent in the price. First reaction among dealers and from NADA was surprisingly mild, but fireworks may develop later.

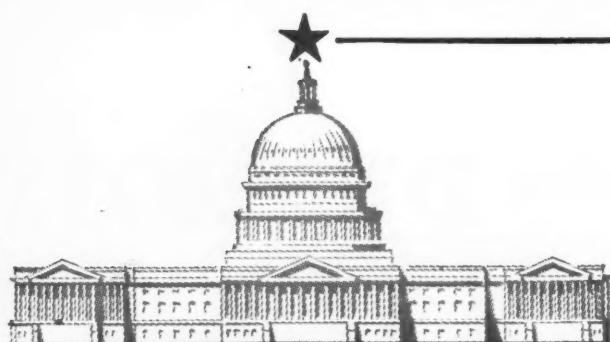
Timing of model changes by Chrysler is believed set back until early next year instead of in November. It is reported that new GM models also will be a little later than the October-November date previously planned. Nash will go ahead according to previous plans, closing down in August for changeover to the new models to be announced in late September or October. Kaiser-Frazer will have a new convertible this summer, and a moderately restyled version of its current models later this year.

Cadillac Div. of General Motors is the latest automobile builder to reduce further the number of its distributors. It will establish factory branches in California to replace the Don Lee organization which has been Cadillac's distributor in that area since 1911.

Orders for the new 1949 Ford have climbed steeply since the car was introduced to the public. The company reports that during the first three days of public showings across the country, 465,646 new orders were written by dealers. Unfilled orders on the books prior to that time totalled about 1.3 million. Ford estimates that more than 28 million persons viewed the car during the three day showings.



by E. J. Hardy



WASHINGTON WIRE

Backers of legislation to set up a commercial-size synthetic fuels industry by means of government subsidies expect to push this measure through the next session of Congress. Experimental production by the Bureau of Mines will continue, but agencies such as the National Security Resources Board believe that a commercial industry with a daily capacity of 30,000 barrels should be set up with government aid. Such an industry would be a base for an eventual capacity of 2,000,000 barrels daily, the amount experts maintain will meet the deficit in natural petroleum products expected within the next decade. Steel shortages will slow down the building of such an industry.

Federal aid to highway construction will continue through the fiscal years 1949 and 1950. The provision whereby the states match Federal funds is also continued.

That Congress intends to keep a close check on trade practices of all kinds is evidenced by a bill sponsored by Representative Meade, Republican, of Kentucky. The proposal, which is now before the House Judiciary Committee, would amend the federal antitrust laws to make certain that a retailer buying from a wholesaler has all the rights and privileges of a dealer or retailer buying direct from a manufacturer.

Through June 21, authorizations for petroleum purchases by ERP countries under the Marshall Plan totalled slightly more than \$75 million. Nearly 27 per cent or \$20 million worth were to be purchased in the United States, not including \$2.2 million worth of machinery and vehicle parts. France was authorized to buy \$13.6 million worth of gasoline, crude and lubricating oils, and grease from United States suppliers; Italy \$2.6 million and Denmark, \$1.9 million. The U. S. Navy would buy \$1.2 million worth of gasoline, diesel and fuel oil for Greek assistance.

* Greatly increased highway construction in 1948 is indicated by the sharp increase in new contracts awarded so far this year. Through April of this year, new awards involving \$400 million of highway construction was 40% greater than for the first four months of 1947.

MOTOR AGE

J U L Y 1 9 4 8



This, That and the Other



The high peak in summer driving is at hand. The recent three-day holiday week-end saw an estimated 30,000,000 cars on the nation's 3,300,000 miles of streets and highways, an average of ten vehicles for each mile. The result: injuries, death and destruction.

It's not a pretty story. Yet, it's one that reveals the all-important responsibility of the service dealer: To Keep Cars Safe.

Several states have laws requiring periodic inspections, but more care is needed than the minimum legal requirements. In between those periods it is your job to service for safety. Win your customer's confidence with the assurance that a regular safety check-up is essential. Then, check brakes; lights, front, rear and stop-lights; tires, steering, wheel alignment; muffler and exhaust pipe; defective glass; rear-view mirror; windshield wipers and horn.

GAS AND OIL

The first postwar survey showing the ratio of gasoline to oil and grease consumption in motor vehicles has been completed by the American Petroleum Institute. Results show 50.9 gallons of gasoline were consumed to one of crank case oil in passenger cars; 50.3 to 1 for trucks.

PUBLIC OPINION

Automobile dealers face hard going in the years ahead unless they "do more than just sell automobiles," Carl Fribley, former president of the New York State Automobile Dealers has said. He urged dealers to take an active part in community work such as projects like safety drives and driver education. "We must spearhead the drive for more and better parking facilities, better highways and parkways and generally improved driving conditions."

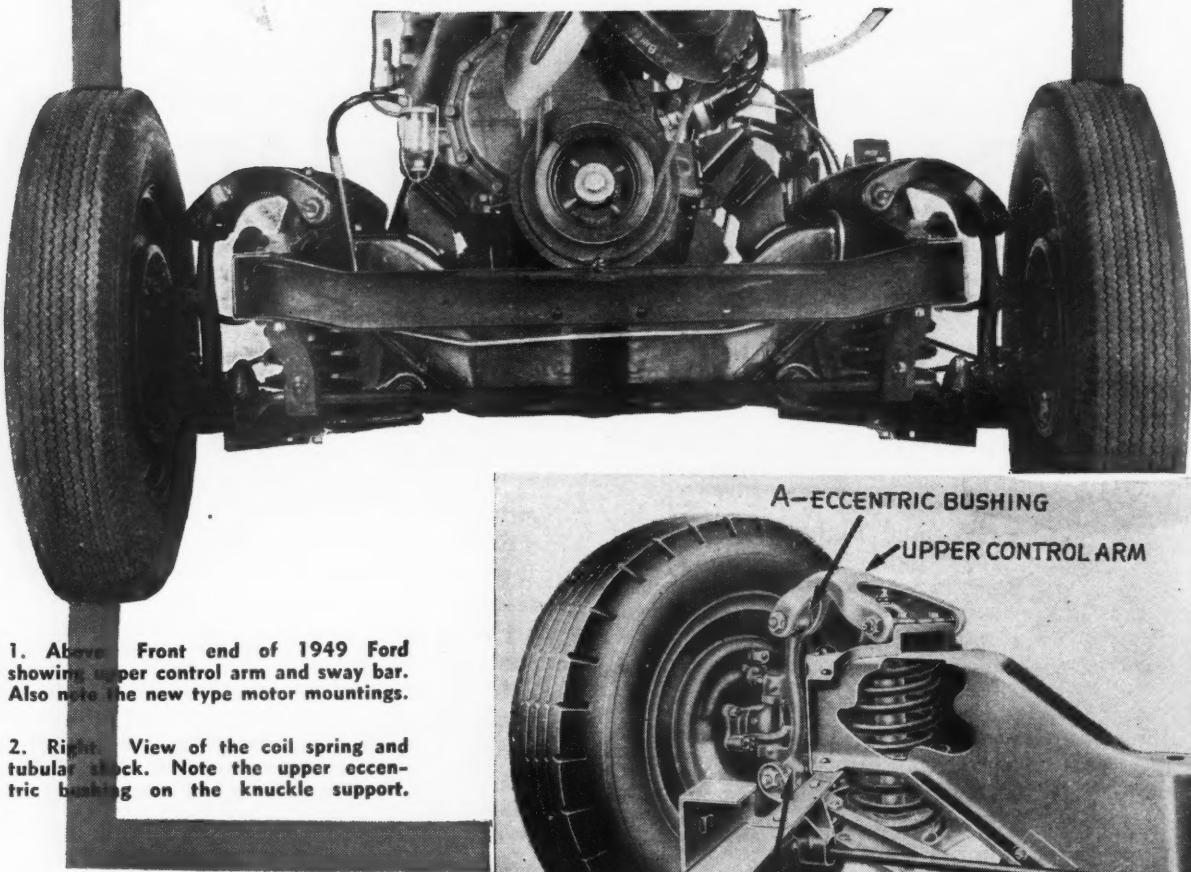
Mr. Fribley added, "The public's opinion of automobile dealers has been influenced largely up to this time by the few unethical operators who are out to grab a fast dollar. It is up to us to change this opinion, and to prove that the automobile dealer is willing to serve his community and do something for the other fellow."

OPPORTUNITIES

General Motors has issued an interesting booklet outlining opportunities for young men in the automotive business. Entitled "Opportunities in the Automotive Business," the booklet urges more vocational school students to become automobile mechanics as basic training for profitable careers.

Frank P. Tigher
EDITOR.

Front Suspension Service on

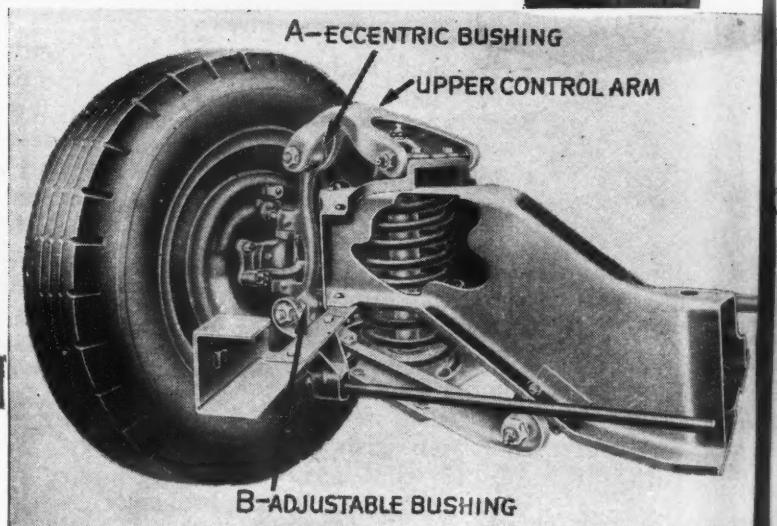


by JACK MONTGOMERY

THE new Ford suspension uses two adjustments for controlling caster and camber. An eccentric pin and bushing is used on the upper outer arms for adjusting camber, and a plain adjustable bushing on the lower for adjusting caster. To adjust camber and caster, loosen the lock screw and turn the bushings with a thin end wrench. Fig. 4, B and C

Caster $+\frac{1}{4}$ to $-\frac{3}{4}$. Camber $-\frac{1}{4}$ to $+\frac{3}{4}$. King Pin Inclination 5 degrees, Toe-In $\frac{1}{16}$ to $\frac{1}{8}$ inches.

Toe-in is adjusted by loosening the clamp screws on the tie rod sleeves Fig. 3, C, and

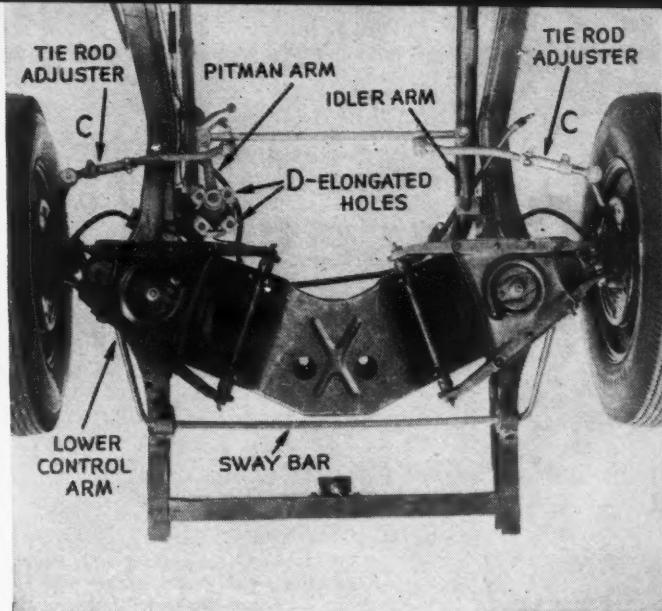


turning the sleeve until the proper toe-in is obtained. Before making any adjustments, the tire pressure should be up to the pressure recommended by the manufacturer.

Three adjustments are provided for setting steering gear properly. Worm end-play is controlled by adding or removing shims between the cap and the steering gear housing. For access to these shims it is necessary to loosen the column jacket clamp at the in-

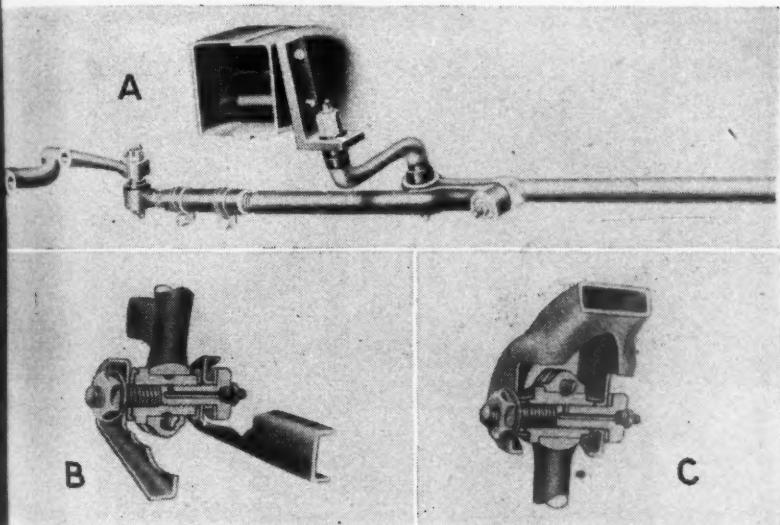
the '49 Ford

Service operations on new Ford independent front suspension are made easier if this step-by-step procedure is followed



3. Above. Underneath view of the suspension showing lower control arm mounting, tie rods, drag link and idler arm.

4. Left, below. (a) Close up of the idler arm mounting; (b) the lower outer adjustable bushing; (c) the upper outer eccentric bushing.



strument panel and also the screws holding the jacket at the housing. Use a knife to separate the shims and remove one at a time until all the up and down motion is removed, with no binding on the worm bearings. To check worm bearing pre-load, disconnect the steering linkage at the pitman and loosen the sector shaft adjustment. Attach a spring scale to the steering wheel spoke and measure

the pre-load while pulling the scale. Correct pre-load should be $\frac{1}{2}$ to $1\frac{1}{4}$ lbs.

The worm and roller mesh is controlled by moving the sector housing back and forth. The sector housing is provided with elongated holes, Fig. 3, D.

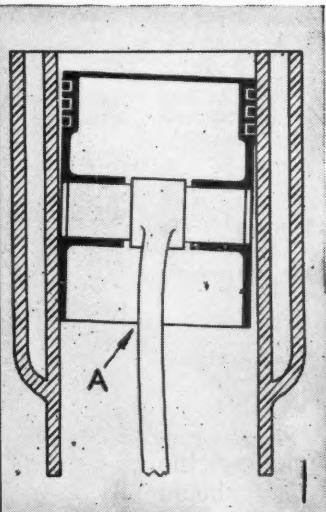
Loosen the sector shaft housing attaching screws, and rotate the housing clockwise until all back-lash is removed. Then tighten the sector shaft housing attaching screws. Adjustment is correct when the bearing load and gear mesh requires $1\frac{1}{2}$ to 2 pounds pull on the steering wheel spring scale.

The sector shaft end-play is adjusted by loosening the set screw lock nut and tightening the screw until all the end-play is removed.

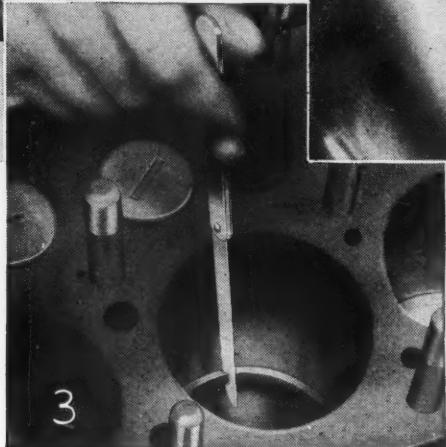
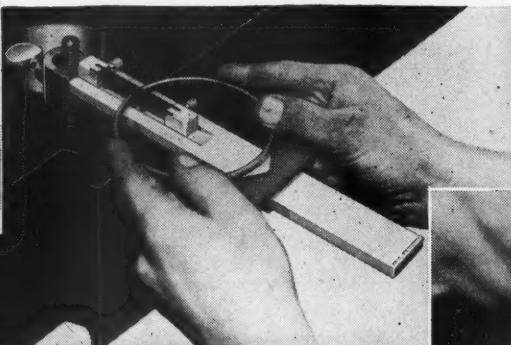
Reconnect the steering linkage at the pitman and turn steering wheel all the way right and then left for possible binding. Re-check all lock nuts and road test the car.

Most mechanics will welcome the change-over which has done away with the old method of bending parts.

Causes of CYLINDER WEAR



1. Bent connecting rod, showing points at which the piston bears against the cylinder wall.
2. Filing the ends of the ring so as to increase the gap to the manufacturer's specifications.
3. Getting the correct gap prevents the ends of the ring from butting at high temperatures.
4. Using the cylinder gage to determine the amount of wear, out of round, and taper.
5. Measuring ring groove depth so that rings of the correct radial thickness are used. assures true positioning of piston.
6. Aligning rods with equipment as shown here



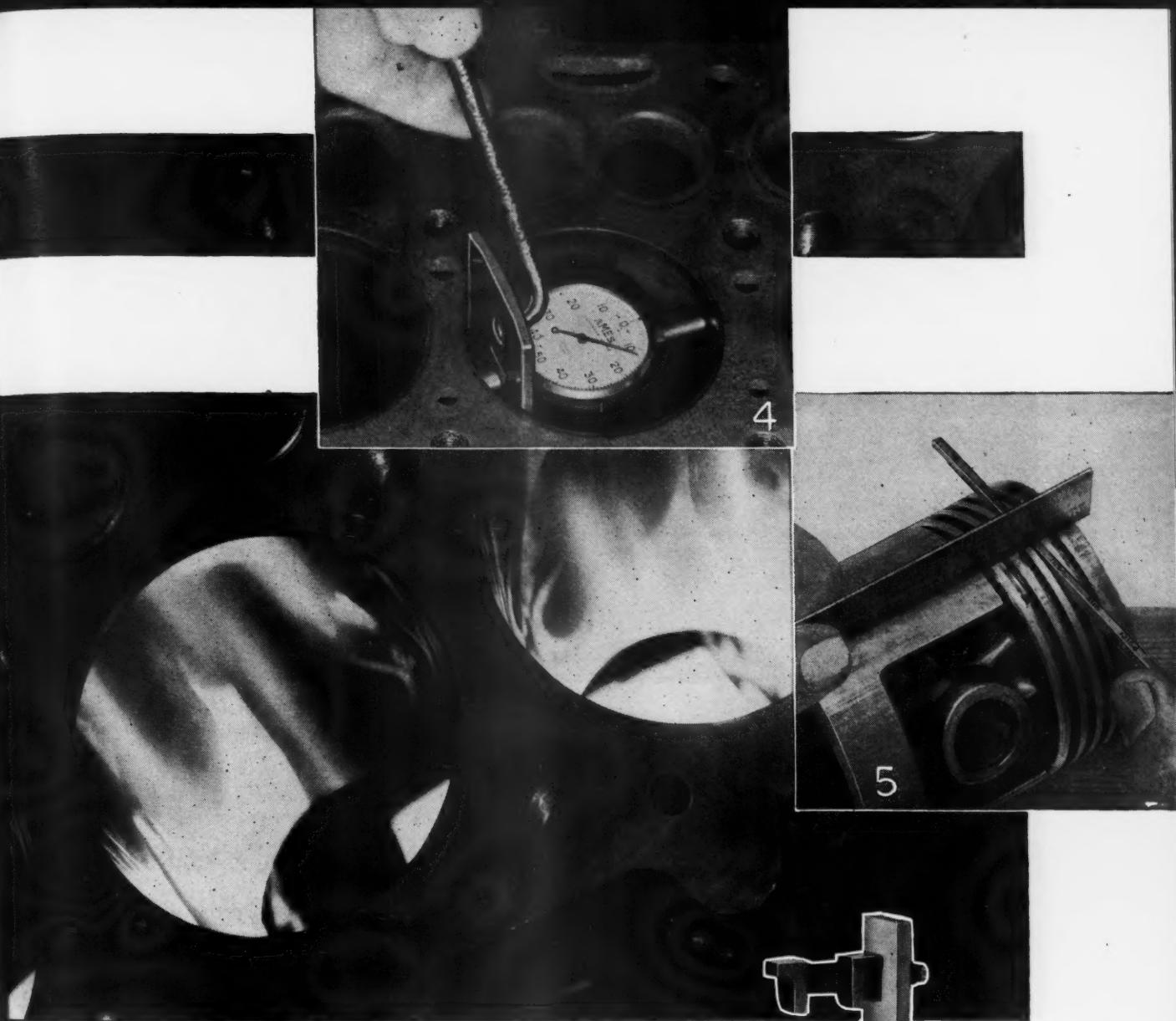
by ARTHUR H. NELLEN, JR.

ADOLLAR-WISE car owner prefers to patronize a shop whose mechanic knows how to keep his car running at peak performance and still minimize upkeep costs. A major problem confronting the service dealer in present day automotive service is that of cylinder wear. The man who understands the causes and remedies of this condition can do much to maintain the confidence of his customers and avoid dissatisfaction.

The eight major causes of cylinder wear are discussed in detail in this article.

These points are important enough to be discussed separately.

ABRASION—One of the most common causes of cylinder wear is abrasion, due to dust entering the engine through the intake manifold. Lack of an air cleaner, or a dirty air cleaner, can cause the engine oil to become an abrasive compound as well as a lubricant. This condition, more prevalent in

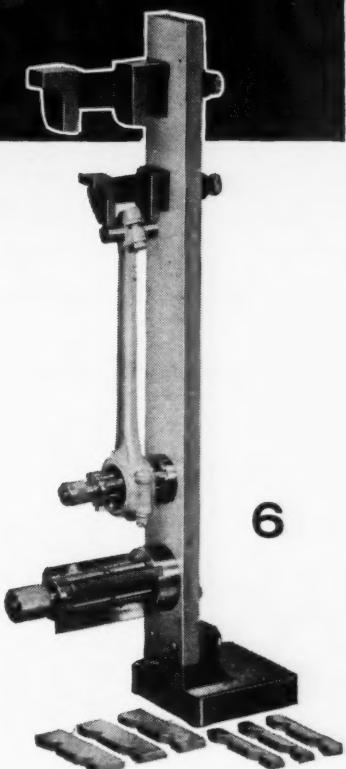


PHOTOGRAPHS FROM PEDRICK ENGINE REPAIR MANUAL

**There are eight main causes of cylinder
wear in a gasoline engine, each of these
being discussed in detail in this article**

dry, dusty regions, is of importance wherever an engine is in use. A cheap form of insurance against an early come-back on a ring job is to send the car out of the shop with a clean air filter, inspect it regularly, and advise the customer to have it cleaned every few thousand miles. Keep the engine oil clean too, chang-

CONTINUED ON PAGE 70





Sterrett Motor Company department heads watch mechanic F. R. Nichols, ex-navy pilot, demonstrate new motor tester.

Sterrett Motor Service Employees Share Company Profits

Greater output — more profit — bigger

pay checks—more contented employees

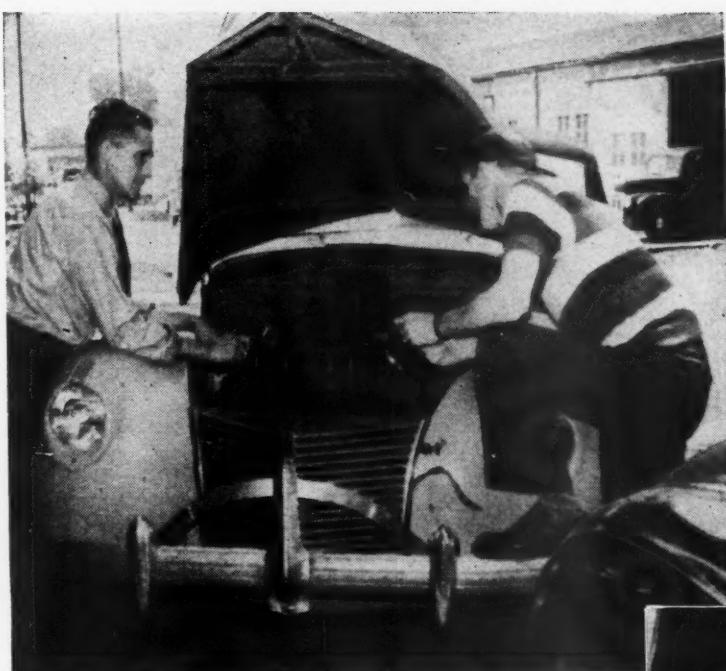
"**A**NY business in order to be successful, must have established throughout its organization a real incentive for each individual to do his best work." This sentence began a letter sent to the home of every employee of Sterrett Motor Service, Inc., Ford dealers of Silver Spring, Mo.

by S. P. KSANDA

These words and those which followed were no idle pep talk. James A. Mitchell, president, and George E. Fouch, vice president and general manager of the company had had no labor troubles in their new business, but they were looking ahead and not waiting for trouble to happen. Both men had worked on important problem production cases during their war-time service in the Navy, and this experience had convinced them that the weekly pay check does not create the greatest possible incentive for production. By way of this letter they inaugurated at Sterrett's an advanced profit-sharing system, which extends through the entire sixty personnel on the pay roll all the way from department managers to the porter.

"The system was put into effect," explains

CONTINUED ON PAGE 82



C. S. Stauber, left, starts "selling up" a customer who has come in for wiring repairs by inviting him to have his motor tested.

by S. D. ELLIS

SELLING more gas mileage to their customers is keeping work on the shop floor for Stauber's Garage, 200 E. 3rd Street, North Little Rock, Ark.

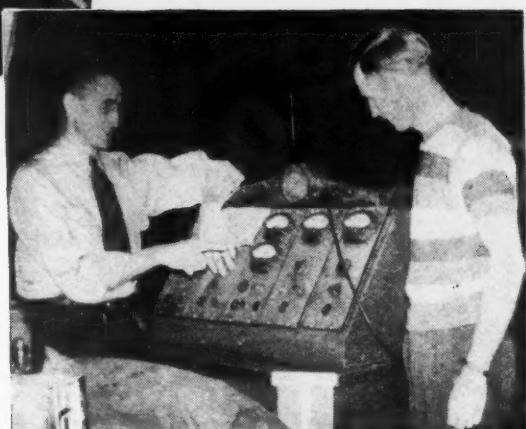
C. S. Stauber has initiated a well-planned program for building volume in his small independent shop, and the hub of the program is more gasoline mileage for every car that rolls through his service doors.

"I don't want more volume than I now have," he says. "There is a peak for economical, comfortable operation, and I feel that I have reached that peak. I hold it by picking the kind of customers I want—those interested in more miles per gallon of fuel."

Motor tuneup and overhaul were the specialties that Stauber picked when he opened for business 10 years ago. These specialties are still his favorites because they yield good profit.

This shop owner attracts profitable overhaul and tune-up jobs by selling improved gasoline mileage.

Mr. Stauber points out the proof that a motor tuneup will save gasoline.



FOR SALE More Gas Mileage

All of his advertising carries in large letters the words that have become the slogan of his little shop: MORE GAS MILEAGE. His mediums are a large display advertisement in the classified section of the telephone directory and space in the American

CONTINUED ON PAGE 94



by ERIC WAHLEEN

When a Hammer Comes in Handy

Every shop has its own method of handling this type of customer, and this treatment, though not recommended for the more sensitive variety has no doubt been used occasionally in stubborn cases

THIS series of photographs was submitted by a car owner who felt that he should supervise the work done on his car. It's not that customers don't trust mechanics, he says, but when the old jalopy goes haywire they don't want it mistreated. They are very fond of their old automobiles — cars even become part of the family — and when they require service, sensitive owners like to supervise the job. But let's let him tell his own story.

When our automobile is ailing we don't waste any time. We take it immediately to our favorite garage and explain in infinite detail just what we think is wrong with it.

When the mechanic looks it over we do likewise—

As he sorts his tools we make sure that he picks only the best—



And that he uses them right.



We don't want him to get lonesome—



And we have our own ideas on just how it ought to be done.



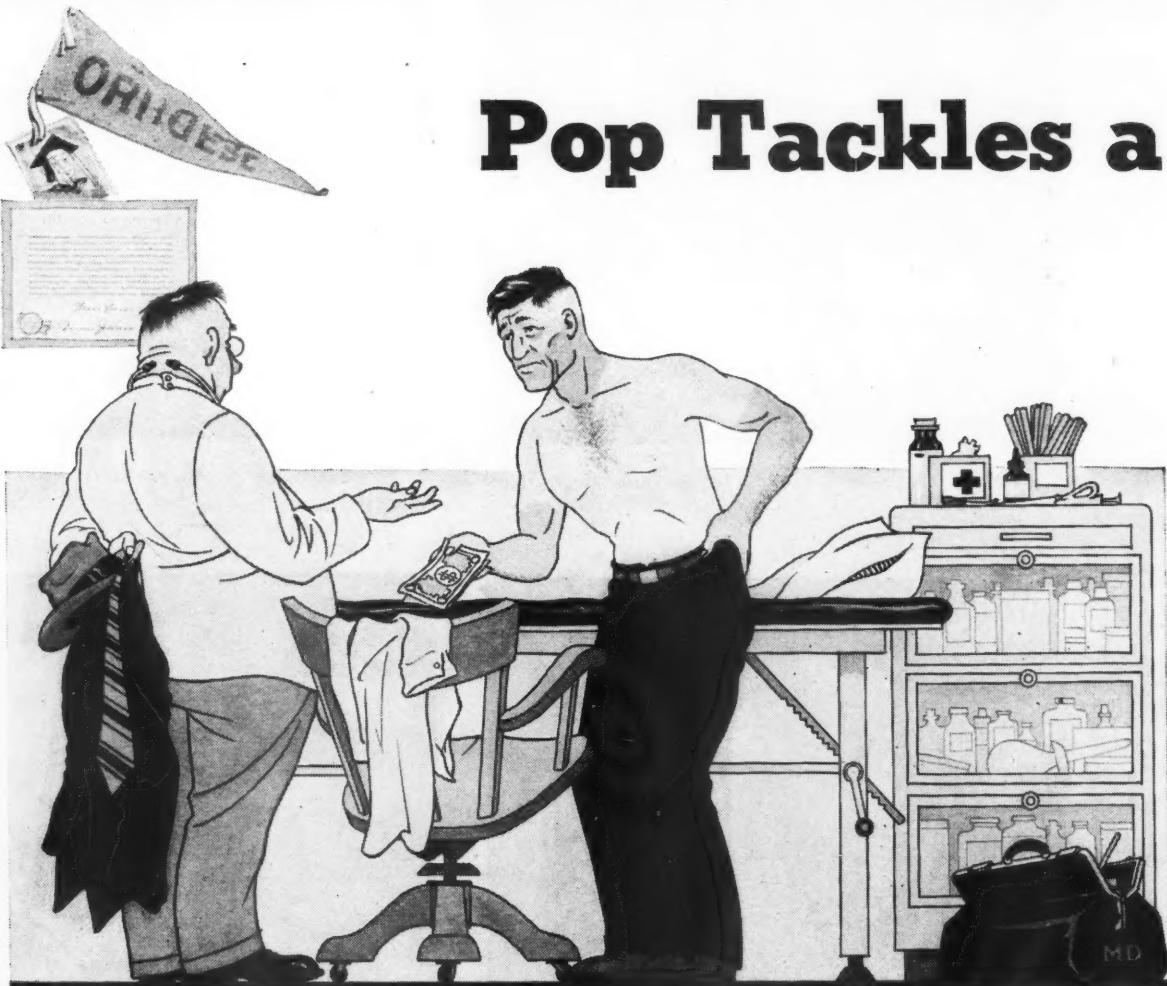
Sometimes there is a diversity of opinion—

And the mechanic occasionally loses his patience.

There are times when auto mechanics seem positively anti-social!



Pop Tackles a



illustrated by FERD OBECK

"So I just gave him my ideas. But does he appreciate it? He not only charges me three bucks, but comes blabbin' to Pop!"

It's a good thing that the Doc was more accurate in his diagnosis than Larry was in finding the trouble in the rear of the Doc's car

Larry Tate, returning from lunch with Tommy Winters, stood a moment at the shop door and filled his lungs with bright, sunny July air.

"This is a swell afternoon for anything but workin'," he said. "If Pop was a regular guy,

he'd give us a day off to go fishin'."

"If Pop keeps on losing customers," said Tommy as they entered the shop, "we'll both be able to knock off work—permanently."

"What d 'ya mean? The only time Pop ever loses a customer is when the undertaker

Hum from the Rear

by J. EDWARD FORD

gets one away from him."

"He sure burned up yesterday when Doctor Fay tried to tell him the noise in his Buick was coming from the tires."

Larry threw him a withering glance. "Are you tryin' to be funny?" he demanded.

"Why no," said Tommy in surprise. "Didn't you know about it?"

"I heard about it plenty. So do me a favor and shut up."

"You don't have to get sore."

"I got reason to be sore. All I was interested in was doin' Doc a favor."

"But you hadn't seen him."

"I went up to his office night before last to see if he could do somethin' about that crick in my back. He starts tellin' me about the noise that's developed in his car. So I just give him my ideas. But does he appreciate it? No! He not only charges me three bucks for the visit but comes in here yesterday blabbin' to Pop."

"Oh," said Tommy, his eyes brightening with understanding, "I get it now. When Pop said it was a hum in the differential, Doctor Fay tried to tell him it was tires."

"I still think it was tires," insisted Larry.

"Then why did we install a new ring gear and pinion?"

"When you slave around this here joint, you do what Pop says or else. I'd laugh myself sick if it turned out to be tire noise after all. Or even spalled wheel bearings."



"Spalled bearings would make a whine instead of a hum, wouldn't they?"

Larry's lip curled slightly. "You may be the fair-haired boy to Pop," he said, "but to me you're just another apprentice. I was repairin' cars when you was still ridin' a scooter." He squinted toward the ceiling. "Roll that chain block down to the end bay. We've an engine to lift out of a truck."

Tommy was rolling the hoist down the track when Pop strolled across the shop.

"Looking for Larry?" asked Tommy.

"Where's he hidin' out today—not in the washroom again?"

"He'll be right out."

Pop grinned. "If he knew what I wanted him for, he'd stay even longer."

"He's only been gone a minute," said Tommy.

"You don't have to cover up for him. I know his tricks. If all the Wild West stories he's read on my time was laid end to end they'd cover the Chisholm Trail."

Larry arrived too late to hear Pop discussing his reading habits. "Want somethin'?" he asked brightly.

"Yeah. I'm lookin' for a mechanic who can tell the difference between tire noise and a rear-end hum."

Larry's cheerful grin faded. "What are you bringing' that up again for?" he asked. "You licked the trouble on Doc Fay's crate."

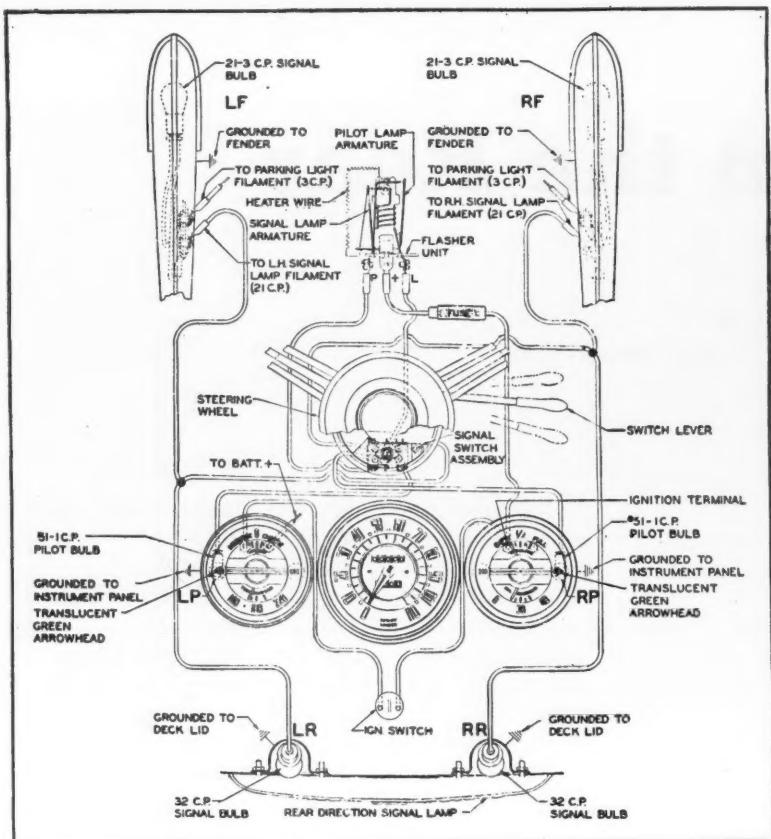
Pop jerked his head toward the far bay. "It's back again," he said.

A smile of triumph lighted Larry's face. "So it wasn't a differential hum after all?" he said.

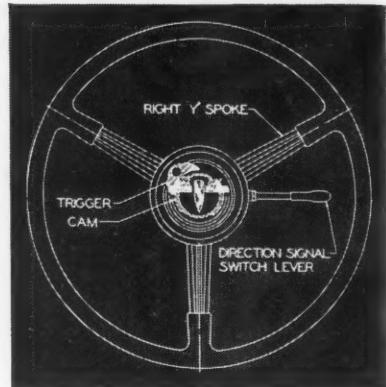
"I ain't prepared to say just yet."

"I know you ain't never been wrong," said Larry sarcastically. "But there's got to be a first time."

CONTINUED ON PAGE 98



1. Schematic diagram showing bulb locations and numbers.



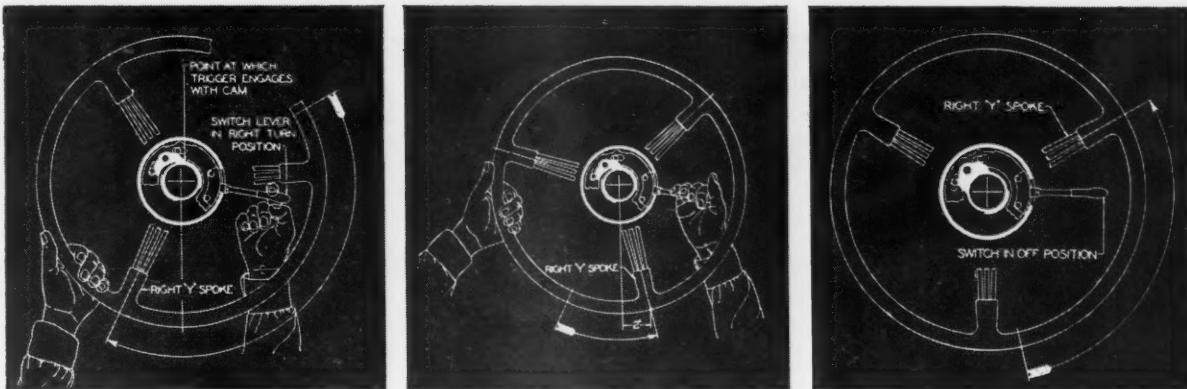
2. Wheel in straight ahead position, switch out of time.

BUICK Signal Light Maintenance

The turn signal is an important aid to safe driving when it operates correctly, but when out of order, it is not only useless, but even dangerous in case of a wrong signal

To adjust the signal switch first set the steering wheel so that the lower spoke is pointed straight down with the front wheels in the straight ahead position. It may be necessary to remove the steering wheel in order to obtain this position. In removing the steering wheel, always make sure that the signal switch is in the off position. Otherwise the steering hub will strike the pawl and cause damage to the switch assembly. When the switch is adjusted properly, the automatic release will not function until the steering wheel is turned approximately one-third revolution and will return to the off position when the wheel is returned to the straight ahead position.

To adjust the switch proceed as follows: Set the signal lever to indicate a right turn. Then rotate the steering



3. Approximate wheel position when click is heard or lever moves.

4. With wheel in this position switch lever should be released.

5. Relation of cam to trigger when switch is correctly timed.

wheel clockwise until a click is heard or until the lever moves just a little. Then hold the lever down in this position and turn the steering wheel back slowly until the spoke is approximately 2 inches to the right of straight-down position. Release the lever and the switch should return to the off position automatically. The left turn adjustment is automatically controlled by the above check. Adjustment is maintained by a crimped steel washer having a pressure of 125 to 150 lbs., compressed to $\frac{1}{8}$ of an inch. Whenever switch adjustment trouble is experienced always check the crimped steel washer first and replace it if the tension is low.

The signal lamps, both front and rear, are operated by a flasher mounted on the steering column. This flasher will cause the lights to flash on and off about 85 to 90 times a minute.

If the pilot light will operate in one direction but not in the other, the probable cause is: (a) A front or rear signal bulb burned out; (b) Pilot bulb burned out; (c) Open circuit between switch and lamp; (d) Defective

by

JACK MONTGOMERY

signal switch.

If the pilot light does not operate for either direction, the probable causes are (a) Any of those mentioned above; (b) Burned out fuse; (c) Defective flasher.

Note: The pilot light will burn continuously if the flasher is wired incorrectly. Signal lamps must have the proper bulbs of the specified candlepower installed or the lamps will not operate properly. The circuit is protected by a 14 ampere fuse located in a splice type fuse holder clipped to the instrument panel to the hand brake lever bracket brace.

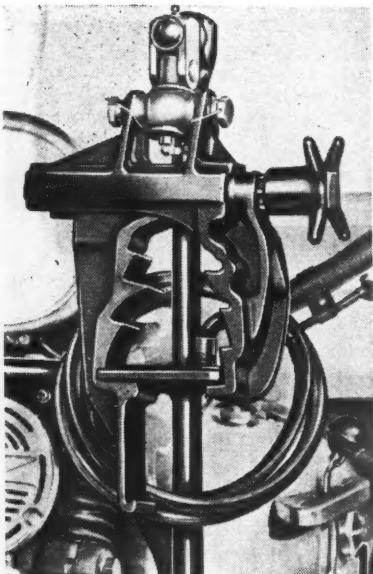
To replace the front signal lamp bulbs remove the two barrel nuts and lift off the lens and ring assembly. Replace the rear signal bulbs by opening the trunk lid, then reach in and spring the retainer clip out and pull out the socket plate. Retaining clips are different in width to prevent reversal of socket plate when installing.

Turn signals are becoming more and more popular with buyers of new cars, and there is a possibility that in the near future they may become standard equipment on many other makes.

NEW

PRODUCTS

SHOW WINDOW

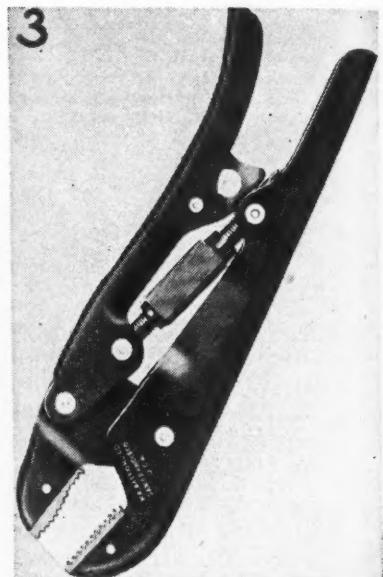


1

K-1 Servi-Car Adapter

The Harley-Davidson Motor Co., Milwaukee, Wis., has designed a adapters permitting "Servi-Cars" to handle the few 1948 bumper patterns not readily served by existing tow-bars. The adapters mount on the tow bar attached to the front fork of the motorcycle. These adapters are designed for 1948 Packards, Cadillacs, Studebakers, Hudsons and the 98 series Oldsmobile. The Harley-Davidson Company also announces their packet of sales promotion aids for repair shops using "Servi-Cars."

3



2

K-2 Open-End Ratchet

The C. J. Henry Co., San Francisco, Cal., is now manufacturing the new T.A.C. open-end ratchet wrench, designed for use on pipe, tube, conduit, cable, and rod fittings where an ordinary ratchet cannot be used. The manufacturer states that this ratchet head operates in a $7\frac{1}{2}$ degree arc or less, thus facilitating work in hard-to-get-at-places.



2

3

K-3 Gripso Vise Pliers

H. R. Basford Company, San Francisco, announces their



4

For further information use coupon on page 66.

"Gripso" vise pliers. The tool has a wide gripping range and features a release which enables the user to unlock the pliers from any position with one finger. New jaw construction, employing a flat upper jaw and curved lower jaw, is said to double the resistance to side twist. By using an adjusting screw that employs both a right and left-hand thread and manufacturer claims to greatly reduce adjusting time.

4

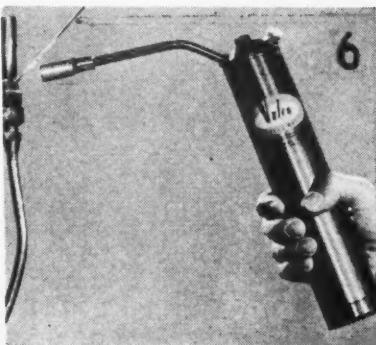
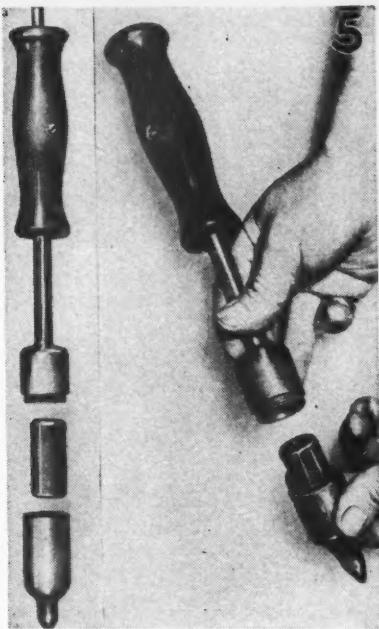
K-4 Deflecto Shield

Becker Industries, St. Paul, Minn., announces their chrome fender shield for all 1942 to 1948 Chrysler products. The Deflecto Fender Shield has been designed to fit the fenders perfectly and act as a gravel guard while it improves the appearance of the fender. Constructed of heavy brass sheet triple plated with copper, nickel and hard chrome, shields are buffed between plating coats to assure uniform plating.

5

K-5 Quick-Shot Iron

The Kemode Manufacturing Co., New York City, announces their Quik-Shot soldering iron.



Requiring no electric current or external heat of any kind, this iron utilizes a chemical cartridge that is said to heat the iron to working temperature in five seconds and to maintain intense heat for fully ten minutes. The cartridge, which is about the size of a small flashlight battery, contains a primer which is ignited in a manner roughly similar to that of firing a bullet.

6

K-6 Vulco Brazing Torch

The Vulco Mfg. Co., of Los Angeles, Cal., announces the new Vulco heating and brazing torch, for use on hard or soft solders. According to the manufacturer, this two pound torch burns ten to thirteen hours on less than three cents worth of LP gas. The calculated flame temperature is 3660 degrees Farenheit. This torch is designed not to "freeze up," due to the construction whereby the fuel is converted into gas before it reaches the burner tube orifice.

7

K-7 Quick-Lock Hitch

Quality Tool and Specialty, Inc., Lansing, Mich., are introducing a chrome plated automobile hitch, the Quick-Lock Hitch, for general utility use and house trailers up to 24 feet long. The outstanding feature claimed is ease of installation, requiring only 20 to 30 minutes of a mechanic's time with no welding, cutting or makeshift parts necessary.

8

K-8 Truck Grille Guard

Leonard G. Cry Co., of Detroit announces a new streamlined grille guard that is built to take a ten ton push. The "Monroe Grille Guard," as it is called, is designed to fit over the bumper of various makes of trucks and commercial vehicles. The frame is curved to provide protection for the fenders.



"ON VERY FEW OCCASIONS HAS ANYONE BORROWED ANY TOOLS FROM ME."



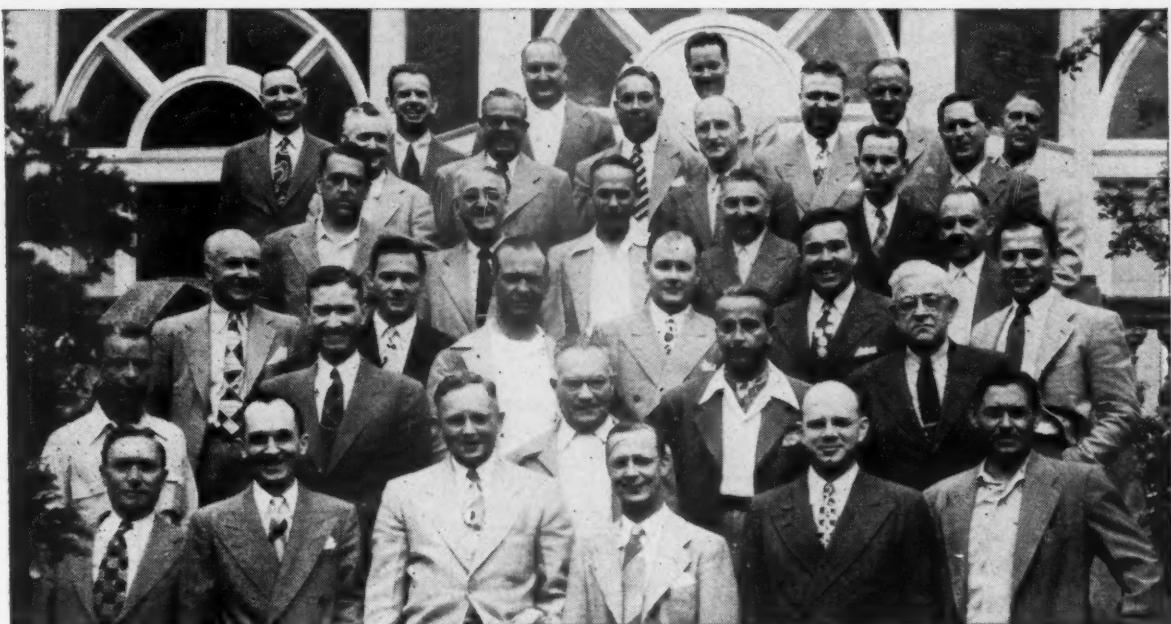
"CAREFUL DEAR, THAT SEAT'S PRETTY HOT!"



"WELL, WILFRED—SHALL WE JOIN THE LADIES?"



"YAPPITY-YAPPITY-YAP!"



**Automotive Advertisers Council and
guests at the Spring meeting of the
Council, held in Hot Springs, Va.**

THE advertising effort on the part of the automotive wholesaler in the promotion and merchandising of his service is scheduled to receive proper and authoritative recognition; and the trend toward the improvement of local automotive advertising is being given a solid boost through the recently announced Advertising Awards program sponsored by the Automotive Advertisers Council.

The program of Annual Advertising Merit Awards for Automotive Wholesalers doing the best local advertising job is designed to encourage more planned, independent advertising by wholesalers. It adds impetus to the already growing trend toward more aggressive promotion on the part of wholesalers as a means of combatting increased pressure from other methods of distribution, a recent council statement stated.

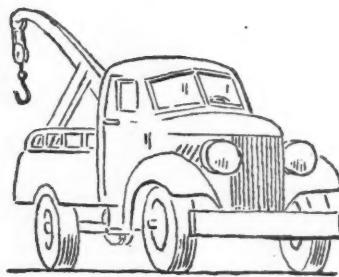
In announcing the program, T. Faxon Hall, sales promotion manager, Walker Mfg. Co., Racine, Wis., chairman of the Council's

Merit Awards to Automotive Wholesaler for Local Advertising

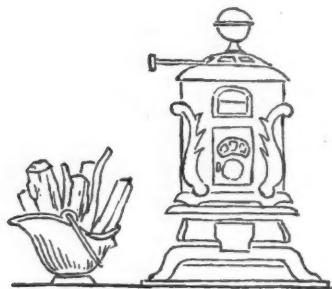
Automotive Advertisers Council Inaugurates Annual Advertising Merit Awards Program for Best Local Advertising by Wholesalers. 1948 Deadline is September 1!

Award Committee, stated that the contest is open to any recognized automotive wholesaler at least 75 per cent of whose business is on a wholesale basis. Awards will be made in four classifications based on wholesalers' dol-

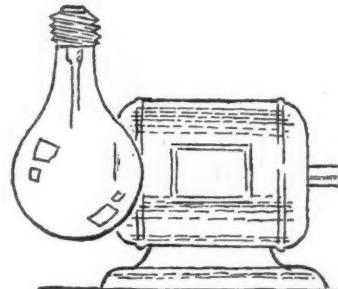
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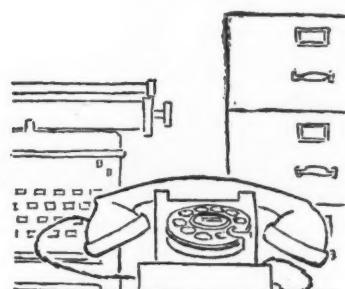
Depreciation



Heat



Light and Power



Office Expense

**Any reader will gain a clear understanding
of the term "overhead" and how to apportion
this expense to job estimates and costs**

by ARTHUR ROBERTS

To estimate overhead accurately, one must know how much is spent for overhead, and this information should be in the financial accounts, which record income and outgo.

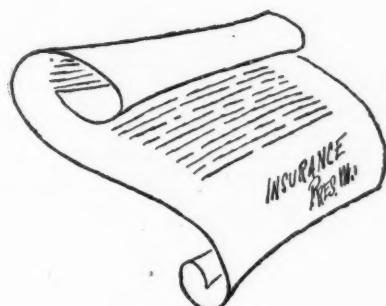
Assure the accuracy of your financial accounts, otherwise your estimates or recorded job costs will be wrong even though you use the proper costing procedure.

Overhead expense includes depreciation,

heat, light, power, office salaries and expense, telephone, insurance, rent or ownership expense, and so forth. In other words, all outlay except labor and materials used on a job is overhead, but this outlay cannot be allotted to each job with the same precise calculation possible with labor and materials, because it is paid on the basis of over-all operation, not on the basis of the job.

When you have determined accurately what your overhead was for a prior period, usually 6 months or a year, break it down to the monthly average. Say it is \$500 a month. Now, how are you going to apportion this expense to an estimate so that the customer is charged an equitable share of the burden? This is the part that confuses a lot of automotive maintenance men because they do not

your Overhead



Insurance

realize that there are three ways to allocate overhead to repair jobs and that all have weak spots that must be watched to avoid loss.

The following easy-to-understand tables should clarify the subject better than lengthy verbal explanation.

The overhead-ratio-to-sales formula

Say that your profit and loss statement for a prior period is as follows:

Sales	\$20,000	100%
Labor and materials	12,000	60
Margin on sales	\$ 8,000	40%
Overhead expense	6,000	30
Net profit on sales	\$ 2,000	10%

Using this formula, the automotive maintenance man would apply the same overhead



Rent

ratio to sales (30%) to each repair job he estimates during a subsequent period. Say that he figures labor and materials at \$60. This would be his complete estimate.

Labor and materials	\$60	50%
Overhead expense	30	30
Net profit	10	10

Selling price.....\$100 100%

These are the same ratios as shown on his prior profit and loss statement, so, the customer would be charged his share of overhead expense. But, here's the gimmick in this formula, a weakness that few automotive maintenance men realize, and one which often brings a mysterious loss or reduction in anticipated net profit. If sales deviate from the prior period, are higher or lower,

CONTINUED ON PAGE 116

FACING YOUR WAY



HENRY FORD II, Ford Motor Co. president, has been appointed chairman of the Community Chests of America, the famous Red Feather Organization



A. H. DICKMEYER has been promoted to the post of general sales manager, in charge of all sales and promotion functions for Wayne Pump Company



C.M. BERGE of Madison Motor Co., Ford dealer of Phoenix, has been elected president of the Arizona Auto Dealers Association for this year



WALTER KIRKPATRICK, Advertising and sales promotion head for Wilkening Mfg Co., is president and manager of the Automotive Advertisers Council

NEWS SCENE



Here's one way to beat gas-rationing! R. G. J. Nash, of Weybridge, Surrey, England, has taken this 1898 Columbia Electric car from his collection of old cars, reconditioned and licensed it. The vehicle, originally owned by Queen Alexandria, runs twenty miles before requiring recharging.



This jeep, rebuilt by Saitra of Rome, is used to pull the folding trailer-tent, manufactured by the same company. The trailer sleeps four and costs about \$650.



Don't worry, fans, the weaker sex isn't going to take over midget racing! This is Eleanor Parker learning a few pointers from Frank Brewer, Captain of the British racing team.

Two sets of controls are used on the "Flying Auto." At the left is the wheel which drives the car, and the inverted column at the right is used in flight.



NEWS SCENE



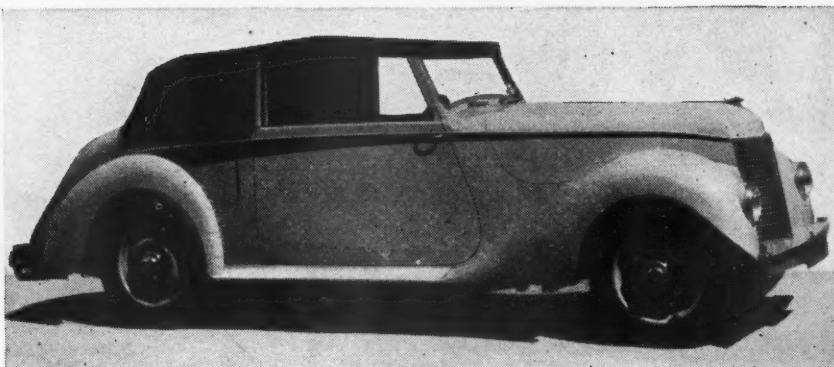
Northwestern University is conducting tests to determine driver fatigue with such equipment as this galvanometer which measures muscular tension.

Holland's first post-war car, the Gato, is made chiefly of Ford parts, runs 23 miles on a gallon of gas, and has a top speed of about 105 m.p.h.

The "Flying Auto," designed by T. P. Hall, is powered by a 190 hp Lycoming engine in the air, and a 26½ hp Crosley engine on the ground.



NEWS SCENE



The first British automobile on the American market to offer an automatic transmission and fluid coupling is the 1948 car manufactured by Armstrong Siddeley Motors, Ltd., of Coventry, England. Some of the features are: Torsion bar suspension, six-cylinder 15.72 rated hp, heater and air-conditioner unit, telescopic steering column, and leather upholstery. The Hurricane is offered in three different models; the "Typhoon," a two door sports sedan; the "Hurricane," a convertible coupe; and the "Lancaster," a four door sedan. All cars are custom built, and the United States distributor, G. E. Giroux and Company, New York City, N. Y., states that a new Hurricane, built to order, delivered for about \$5,000, taxes and duty included.

Dealers Average Only 45 New Cars Since First of Year

The nation's 40,000 new car dealers will have an average quota of only 45 automobiles for the first six months of this year, a bulletin of the National Automobiles Delares Association said recently. This was based on an estimated production of substantially 1,800,000 cars.

"Passenger car production so far this year has been on about the same level as during the seven years preceding Pearl Harbor," the statement pointed out. "There were automobiles for all who wanted them then, but today there are orders for 6,000,000 cars on dealers' books that can not be delivered. This is enough to absorb the major part of contemplated production for the next two years."

"Motor vehicle owners of the country, however, through the expenditure of \$7,000,000,000 a year on repairs and replacement parts, are keeping so many old vehicles in service that the total number is now 3,000,000 higher than ever before."

Ford, GM End Fleet Rebates, Other Companies to Follow

Ford Motor Co. has followed the lead of General Motors in abandoning its fleet agreements calling for 3 per cent rebate to eligible purchasers. GM announced June 5 that the agreement was out, and then followed it a few days later with a new

agreement substantially the same as the old one insofar as fleet services are concerned, but eliminating the 3 per cent rebate on purchase of 20 or more cars and/or trucks a year. In addition, the new agreement does not cover individually owned cars of employees of fleet agreement holders as did the old contract. Principal advantage of the new agreement is that buyers can concentrate their purchasing through one company, and undoubtedly, will be able to get better service on deliveries. Discounts on parts will remain in effect since they were not part of the old fleet agreement. The action applies to all GM passenger cars and Chevrolet trucks. A GM spokesman said that such action had been under consideration for a long time and that the corporation could see no justification for the rebate in the current boom market. A Ford spokesman said that elimination of the fleet agreement was necessary to hold costs at a minimum and to maintain prices at the lowest possible level. It is practically certain that all other companies in the industry having fleet agreements will follow the lead of Ford and General Motors. Chrysler never has liked the fleet discount system, and undoubtedly will abandon it. Studebaker

CONTINUED ON PAGE 126

New Passenger Car Registrations*

Arranged by Makes in Descending Order According to
the Four Months' 1948 Totals.

Make	April*	March	February	January	1948	1947
Chevrolet	64,646	66,465	53,411	55,090	239,612	189,683
Ford	19,493	42,405	42,650	44,896	149,444	160,489
Plymouth	32,242	29,364	21,433	30,311	113,350	99,257
Buick	22,312	24,726	20,001	18,073	85,112	72,537
Pontiac	21,349	23,470	18,148	16,428	79,395	63,141
Dodge	21,802	18,599	14,480	20,335	75,216	61,427
Oldsmobile	17,358	18,377	12,484	12,148	60,367	57,802
Studebaker	11,623	13,434	10,367	10,211	45,635	32,276
Nash	11,236	10,490	8,227	8,467	38,422	35,741
Chrysler	11,271	8,997	6,188	8,621	35,077	28,441
Hudson	10,524	10,967	6,907	6,595	34,983	31,368
Kaiser	10,890	7,795	6,501	7,410	32,596	11,637
Mercury	2,915	8,454	9,321	10,110	30,800	34,682
DeSoto	8,309	6,945	4,710	6,946	26,910	21,600
Frazer	6,584	4,657	4,555	5,443	21,239	6,607
Packard	7,023	5,884	3,549	4,152	20,608	13,617
Cadillac	5,880	3,665	1,801	4,351	15,887	15,473
Willys-Overland	2,853	2,821	1,845	1,886	9,405	6,737
Crosley	2,538	1,965	1,401	1,449	7,353	4,521
Lincoln	948	1,133	1,238	1,728	5,047	7,334
Austin	965	803	457	238	2,404	-----
Playboy	5	1	2	-----	8	-----
Anglia Prefect (Br. Ford)	1	-----	-----	-----	1	-----
All Others	388	233	105	87	813	253
Total	293,155	311,650	248,781	274,978	1,129,564	954,963

*Data from R. L. Polk & Co., and are complete for all states with the exception of California for the month of April.



Officials of the New York State Automobile Dealers Association and Executives of the Ford Motor Company were photographed together during the recent world premiere showing of the 1949 Ford line at the Waldorf Astoria Hotel, in New York City. Seated left to right: Ralph T. Horgan, New York Ford dealer, and Chairman, New York State Automobile Dealers Association Convention Committee; T. H. McElvein, Jr., President, N. Y. State Automobile Dealers Association; Charles Parsons, former President, N. Y. State Auto Dealers Association; J. R. Davis, Ford Vice President and Director of Sales and Advertising; C. J. Seyffer, Ford Northeast Regional Manager; Nelson E. Bowe, Ford N. Y. District Manager. Standing, left to right: C. E. Pierson, Ford Ass't. Northeast Regional Manager; R. F. Leonard, Ford Buffalo District Manager; C. R. Beacham, Ford Southeast Regional Manager; H. F. Lidgard, Ford Pittsburgh District Manager; W. T. Rowcroft; and Henry M. Strout, Ford Somerville (Mass.), District Manager.

New York State Dealers Celebrate 25th Anniversary

At the New York State Automobile Dealers 25th Anniversary Meeting, Charles A. Parsons, president of the Association, called on the public "to look into the dealers' problems more fully before condemning them for things that are not their fault."

"The public acquired the habit," he said, "of blaming the dealer for everything from the higher price of cars to the length of time it takes to get a car. These are not the dealers' fault.

"The price of cars, for example, has not increased any more than the price of most other commodities, and is due to such factors as higher cost of steel and labor."

Mr. Parsons said he was aware that some few individuals were selling cars at above list prices and engaging in other "shady deals," but said the vast majority of dealers were honest and should not be blamed for the dishonest actions of the few.

"Most dealers have too much invested in their business to risk any dishonest or shady dealings," he added. "They are substantial business men, who are looking forward to doing business in the future, and don't intend to chance losing a lifetime business for an opportunity to make some extra money in one year."

CONTINUED ON PAGE 128

Automobile Makers Progressing On Automatic Transmissions

Recent developments indicate that automatic transmissions on all cars may not be too far away. Harold Youngren, Ford engineering chief, has revealed that the company has selected the type it wants and the development is moving along rapidly. He said that it would appear first on the Lincoln, second on the Mercury, and on the Ford last. It is understood to be the torque converter developed by Borg-Warner, and to be of simpler design than any now being built. Packard has set up a new automatic transmission division, indicating that it is getting ready for production of an automatic

Newly elected officers of the Automotive Advertisers Council, left to right: R. E. Conley, advertising manager, R. M. Hollingshead Corp., Whiz Automotive Division, Camden, N. J.; treasurer; C. H. LeFevre, advertising manager, Sealed Power Corp., Muskegon, Mich., secretary; Walter Kirkpatrick, manager of advertising and sales promotion, Wilkening Mfg. Co., Philadelphia, Pa., president; Duane Jones, advertising manager, United Motors Service, Detroit, Mich., vice-president.



unit, also said to be a torque converter. Nash and Hudson also are working on similar types of transmissions. Chevrolet currently is the only GM division not offering automatic drive, but is reported interested in a torque converter similar to the Dynaflow offered by Buick.

Nash Department To Standardize Car Parts

Nash Motors has established a new department at its Milwaukee parts plant to develop methods of simplifying replacement parts. Principal purpose of the new service parts research and modification department will be to work out methods for substituting parts used in later models as replacement for older model Nash cars either as they are or with alterations. Objective of the project is to meet service needs of more cars with a reduced number of parts carried in stock.

Automotive Industry Largest User of Steel Products

The American Iron & Steel Institute reports that the automotive industry in 1947 was the largest single user of steel and took the largest tonnage in its history. Shipments to the industry totaled 9.273 million net tons, or about 14.7 per cent of total shipments of finished steel.

CLEARING HOUSE FOR SERVICEMEN'S QUERIES

• • • By JACK MONTGOMERY • Technical Editor

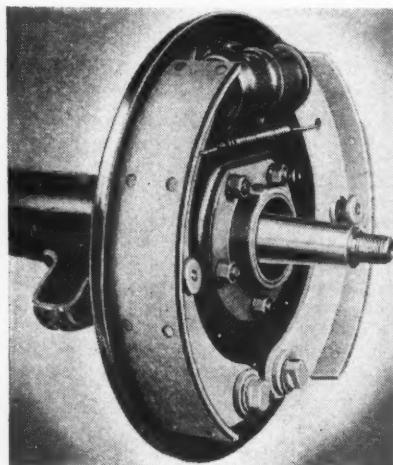


Can't Get Solid Pedal on Dodge and Plymouth Brakes

We have been having trouble with Dodge and Plymouth brakes after relining has been done. We can't get a solid pedal. We bleed the brakes with a pressure bleeder, running at least a pint through each wheel cylinder, turn down the drums, and checked the anchor adjustment. On two jobs we even rebuilt the master cylinder. On the others the master cylinder showed no leaks, and we checked to make

lining to the correct drum contour. This has proved very satisfactory.

You might also check the front brake hoses for expanding when brakes are applied.



sure the return holes were open. William Blewett, Hayden Woodworth Garage, 1217 Hayden Avenue, Cleveland, Ohio.

I suggest that you go over the anchor adjustments once more. Also there is a special grinder on the market now that not only sets the anchors but sands the

Another strange thing is that the vacuum booster on the brake seems to be working all right, and before starting the car, the clutch pedal pushes down quite hard and after starting the car, the pedal is soft, as though the vacuum was pulling on it.

The clutch was operating all right last fall when the car was laid up for the winter. It doesn't seem like too much could have happened to it over the winter months. Leroy O. Hanson, Lakeside Service Station, Box 444, Edinboro, Pennsylvania.

The vacuum chamber has nothing to do with releasing the clutch but only acts as an assistor. That is why the clutch pedal is easier to push when the engine is running, the vacuum cylinder helps pull the pedal down. Vacuum at the cylinder can be checked with a vacuum gage by taking a reading at the manifold and then at the vacuum cylinder. The reading should be the same. The trouble is probably due to the facings being stuck on the pressure plate or flywheel. In either case it will be necessary to remove the clutch assembly.

Packard Booster Clutch Won't Release Properly

We have in our shop a 1936 model 1407 Packard, 12 cylinder. It has a vacuum clutch and a vacuum brake. The car sat idle all winter. This spring, after starting and tuning up the motor, we find the vacuum clutch will not operate.

The clutch pedal moves back and forth but the clutch does not seem to disengage. We thought at first that the clutch plate was stuck on the shaft but after holding it against the tree with the engine running in gear, there still seems to be no change.

The vacuum from the fuel pump was very low, but upon replacing the diaphragm, it increased the vacuum some. This still didn't seem to have any effect on the clutch.

Low Mileage Studebaker Won't Idle Smoothly

We have a customer who owns a 1947 Studebaker Commander

with 17,000 miles. He complained of poor idling.

Receiving this complaint, we removed spark plugs and tested compression. We found the compression to be low so we removed the cylinder head and refaced the valves. Replacing the head, we found the compression normal, yet it would not idle. We then removed the carburetor, cleaned and reset float level, checked needle valve and seat and tested and found carburetor to be in A-1 shape. Still no idle. Points checked, valves checked for sticking, plugs and wiring harness checked, all to no avail.

What is your suggestion? Don Redmond, Al Bonsecours & Sons, John Deere Sales & Service, Cheboygan, Mich.

On your Studebaker that idles poorly. I would suggest increasing the spark plug .005 in., also check the engine vacuum if vacuum gage needle is erratic or vacuum is low. Check for air leaks in manifold. Also check the ignition timing and set to factory specifications as early ignition timing can cause engine to idle rough.

and said it wasn't any better so I pulled the transmission again and the shifting fork on high gear side was worn badly on both sides. Wilmar Auto Service, 128 W. Garvey, Wilmar, Calif.

Regarding your 1941 Chevrolet that jumps out of gear at speeds around 50 M.P.H., considering all the work you have

the transmission pilot hole. If the run-out is more than .005 in. then the flywheel housing will have to be relocated. Relocate the flywheel housing by enlarging the holes in the housing. This will enable you to shift the housing until proper limits are obtained.

1942 Lincoln Runs Rough On Left Cylinder Bank

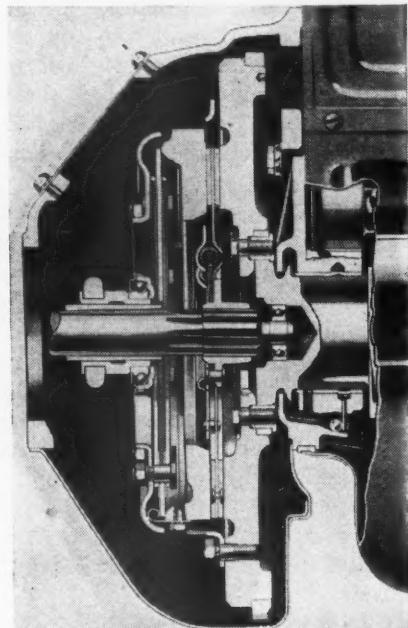
We are writing you to see if you can help us with a 1942 Lincoln Continental. The motor runs all right at speeds above twenty miles per hour; under that the motor is very rough. When the left bank is shorted out at the distributor, the right bank is as smooth as silk. But when the right bank is shorted out the left bank is very rough.

This car had an exchange motor about 5000 miles back. When the car came into us, the vacuum reading was from ten to twelve inches at idle speed.

We tuned the motor, put on a new distributor, coils and condensers. We tried four different carburetors, new spark plugs, wires and caps, with no results. The compression reading is the same on both sides, about ninety pounds.

We ground the valves on the left bank and installed a new intake manifold, with no results. We removed the exhaust manifolds and heat risers in the left pipe, with no results.

CONTINUED ON PAGE 62



done and all the parts that have been renewed, I would say your trouble probably is due to misalignment between the flywheel and clutch housing. This alignment can be checked by bolting a fixture to the flywheel and mounting a dial gage on the end of it. Turn the crankshaft slowly and check the runout of

1941 Chevrolet Slips Out Of High Gear Over 50

I am having trouble with a '41 Chevrolet slipping out of high gear at speeds over 50 miles an hour. After you drive about 30 miles and get it up to 50 or better it comes out.

I have put in a new clutch pilot bearing, pressure plate, throwout bearing, new motor mounts, pilot bushing and seal in the drive shaft to keep grease from the differential. I have also overhauled the vacuum shift completely, put in a new transmission case and every part new in transmission. He tried it and came back and said that it wasn't any better so I changed wheels from front to back and put 2 fifteen thousandths shims under the two bottom bolts between bell housing and transmission. He went on another trip and came back

Summary of Indianapolis Motor Speedway 1948 Prize Fund

	Speedway Award	Accessory and Lap Prize	Total Prize Money
1. Mauri Rose	\$25,650	\$17,150	\$42,800
2. Bill Holland	13,750	5,350	19,100
3. Duke Nalon	10,050	5,625	15,675
4. Ted Horn	6,850	9,325	16,175
5. Mack Hellings	6,050	1,625	7,675
6. Hal Cole	4,850	575	5,425
7. Lee Wallard	4,490	550	5,040
8. Johnny Mauro	3,690	425	4,115
9. Tommy Hinnerhitz	3,870	400	4,270
10. Jimmy Jackson	3,650	470	4,120
11. Charley Van Acker	2,820	300	3,120
12. Billy DeVore	2,700	230	2,930
13. Johnny Mantz	2,180	50	2,230
14. Tony Bettenhausen	2,460	100	2,560
15. Hal Robson	1,940	50	1,990
16. Bill Cantree	1,820	50	1,870
17. Joe Chitwood	2,200	175	2,375
18. Bill Sheffler	1,780	50	1,830
19. Rex Mays	2,050	3,725	5,775
20. Chet Miller	2,020	100	2,120

Then we replaced the motor with an exchange motor, with all the trimmings new. Then our vacuum was fifteen inches, fairly steady with still a rough idle on the left bank. We had the Ford shop and one other tune-up shop check with us on this car to see that the spark plug wires were in their proper location in the distributor caps. Same results as above.

Then, we removed this motor, sent it back to the dealer and got a new camshaft and all new valve guides and springs, making sure that we had Lincoln valve springs, which are about seventeen pounds stronger than Ford valve springs.

We ground the valves on both sides and set the tappet clearance at seventy thousandths. Then we had fifteen inches of vacuum and a rough idle on the left bank.

We will be very grateful for any help or sympathy you can give us. We delivered this car to the owner to drive until we could hear from you. We hope you can help us. Ed Putman, Palo Duro Motor Tune Up, 212 West 7th Avenue, Amarillo, Texas.

You might try increasing the spark plug gaps from .025 to .030 in., and also examine the vacuum advance line for leaks.

Recently a Lincoln engine with similar trouble was corrected by installing an additional head gasket. There is always the possibility that you may have a defective replacement part, and I suggest that another careful check of the work which you have done might bring the trouble to light as you seem to have done about everything to correct this condition.

What Is "Compression Pressure" and "Ratio"?

After reading the "Engine Spec." page in the April 1948 "Motor Age," there arises some doubt in my mind over the worth or significance of "compression pressure."

Several other reputable

sources indicate that for every compression ratio there is just one nominal compression pressure within reasonable limits, yet in various spec. sheets and other data, there can be found excessive latitude for figures on the same engine.—New Jersey subscriber.

The figures listed in the column headed "Compression Pressure at Cranking Speed (Lbs.)", are supplied by the car manufacturers and are for use of the repair man in checking for conditions which may cause a falling off of pressure below that of an engine in good condition.

Other sources, which indicate that for every compression ratio there is just one nominal compression pressure, within reasonable limits, may fail to take into consideration the factors effecting pressure at cranking speed. Among these are: the speed at which the engine is cranked, cylinder head design, intake valve timing, cam design and connecting rod length in relation to the stroke of the engine.

As you know, when a gas is compressed, its temperature rises, causing it to expand. This accounts for the fact that compression pressures in psi practically always are greater than the figure obtained by multiplying the compression ratio by atmospheric pressure. At low cranking speeds more time is allowed for the compressed gas to lose some of its heat through the cylinder wall and head. Also, a cylinder head which presents a large internal surface will conduct a greater amount of heat from the compressed gas than one with less exposed surface.

At cranking speeds, compression does not begin until the intake valves are closed. The effective compression stroke is greatest in engines which close the intake valves earliest. Quiet ramps on the closing side of the intake cams have little effect on compression at high speeds but may effect it at very low speeds.

Even with identical valve tim-

ing in degrees of crankshaft rotation, an engine with a short connecting rod in relation to its stroke will have a greater effective compression stroke than one with a longer rod. Everything else being equal, the shorter the connecting rod, the greater the difference between the piston travel during the first 90 deg. of crankshaft rotation, from bottom dead center, and the next 90 degrees.

Pressure readings should of course be taken with a wide open throttle. Readings obtained by any other method would be meaningless.

H. M. Dollins' problem of a Cadillac engine missing on cylinders 6, 7, and 8, was solved by Charles Harshman, of Nowata, Oklahoma, although many other suggestions came close. Most of the mechanics who wrote in suggested a warped crankshaft, a logical solution, but it wasn't the answer. Harshman figured that if the engine had been checked carefully so many times, the trouble might not be found in the engine at all. He suggested disconnecting the large muffler pipe to the exhaust manifold. Believe it or not, the exhaust system was clogged with carbon. The cylinders, Dollins said, came in very slowly as they cleared themselves.

Replace Oil Filler Cap With Breather-Type Cap

One of our automotive vehicle inspectors submitted the suggestion listed below and I would appreciate your advising me your opinion of this suggestion:

"I suggest the replacement, on Towmotor Material Handling Equipment, of the original oil filler cap, Part No. 20CL-2020, with a regular crankcase breather cap normally found on the standard makes of automobiles and trucks.

This replacement is easily accomplished by extracting the regular oil filler tube, Part No. F-600-L-3010, and cutting off the neck. A piece of 1 1/2 in. x

CONTINUED ON PAGE 142

Current Engine and Tune-Up Specifications

MAKE AND MODEL	No. of Cylinders (in.)	Wheelbase (in.)	Taxable Bore and Stroke	Cyl. in., Piston Displacement	TUNE-UP DATA									
					VALVES		IGNITION		STEERING					
	Ring	Seat Angle	Seat Angle	Operating Tappet Clearance	Timing	Cam Angle (Deg.)	Steering Wheel Width (in.)	Steering Marks	Camber (Deg.)	Toe-in (in.)	King Pin inclination (Deg.)			
Buick..... Eight, 40	121	8-3½x4½	30.6	248.1	AC-48	2-1	45	.372	.016H	.015	48T	Fly	A	5½
Buick..... Eight, 50	124	8-3½x4½	30.6	248.1	AC-48	2-1	45	.372	.015H	.015	48T	Fly	A	5½
Buick..... Eight, 70	129	8-3½x4½	37.8	320.2	AC-48	2-1	45	.372	.015H	.015	48T	Fly	A	5½
Cadillac, Elkhorn 61-62, 80S (a)	8-3½x4½	39.2	346.0	150-3400	7.2	117	AC-104	2-1	45	.372	HA	HA	TD	13
Cadillac, Elkhorn 61-62, 80S (a)	8-3½x4½	39.2	346.0	150-3400	7.2	117	AC-104	2-1	45	.372	HA	HA	TD	13
Chevrolet..... Six, C-38	121½	8-3½x4½	28.3	250.6	AL-A5	2-1	45	.341	.008H	.010H	128T	Fly	A	5
Chevrolet..... Six, C-39	127½	8-3½x4½	33.8	323.5	AL-A5	2-1	45	.341	.008H	.010H	128T	Fly	A	5
Chevrolet..... Eight, C-40	146½	8-3½x4½	33.8	323.5	AL-A5	2-1	45	.626	.008H	.010H	128T	Fly	A	5
Crosley..... Four, CC-48	80	4-2½x2½	10.0	44.0	285.5-5400*	7.5	130	AL-A7	2-1	45	.313	0.004C	.006C	.009
Davis..... Four, D2	108	4-3½x4	16.9	133.0	46.5-3200	5.5	...	CH	2-1	45	.340	.008H	.010H	.014
De Soto..... Six, S-11	121½	6-3½x4½	28.3	236.6	109-3800	6.6	135	AL-A5	2-1	45	.340	.008H	.010H	.014
Dodge..... Six, D-24	119½	6-3½x4½	25.3	230.2	102-3800	6.7	130	AL-A5	2-1	45	.340	.008H	.010H	.014
Ford..... Six, 87HA	114	8-3½x4½	26.1	226.0	90-3300	6.7	161	CH-H10	2-1	45	.302	.016	.014	.014
Ford..... Eight, 88HA	114	8-3½x4½	23.6	229.4	100-3800	6.7	115	CH-H10	2-1	45	.310	.014	.014	.014
Frazer..... Six, F485-F486	123½	6-3½x4½	26.3	226.2	100-3800	7.3	120	AL-A6	2-1	45	.341	.014C	.014C	.014
Hudson..... Six, 481-482	122½	6-3½x4½	30.4	262.0	121-4000	6.5	119	CH-H9	2-1	45	.341	.010H	.012H	.014
Hudson..... Eight, 483-484	123½	6-3½x4½	28.8	254.0	122-4200	6.5	119	CH-H10	2-1	45	.341	.008H	.008H	.010H
Kaiser..... Six, K481-K482	123½	6-3½x4½	26.3	226.2	100-3800	7.3	120	AL-A6	2-1	45	.341	.014C	.014C	.014
Lincoln..... Twelve, 876H	125	12-2½x4½	30.6	282.0	125-3600	7.2	...	CH-H9	2-1	45	.310	.010A	.010B	.010
Mercury..... Eight, 80M	118	8-3½x4½	32.5	239.4	100-3800	6.7	160	CH-H10	2-1	45	.311	.011	.015	.015
Nash..... Six, 4840	112	6-3½x4½	23.4	172.6	82-3800	7.0	120	AL-A5	2-1	45	.341	.015	.015	.015
Nash..... Six, 4860	121	6-3½x4½	27.3	234.8	112-3400	7.0	125	AC-44	2-1	45	.372	.015	.018	.022
Oldsmobile..... Six, 76	119	8-3½x4½	29.4	235.1	100-3400	6.5	169	AC-45	2-1	30	.342	.008H	.011H	.012
Oldsmobile..... Eight, 68-78	125	8-3½x4½	23.8	257.1	110-3800	6.5	165	AC-45	2-1	30	.342	.008H	.011H	.012
Oldsmobile..... Eight, Futuramic 98	125	8-3½x4½	33.8	257.1	115-3600	7.0	182	AC-45	2-1	30	.342	.008H	.011H	.012
Packard..... Eight & Del. 8	120	8-3½x4½	39.2	268.0	130-3800	7.0	(k)	2-(1)	1-16	30	.340	.008H	.010H	.014
Packard..... Super Eight 120	120	8-3½x4½	39.2	268.0	145-3800	7.0	(k)	2-(1)	1-16	30	.341	.007H	.010H	.012
Packard..... Super Eight 127	127	8-3½x4½	39.2	265.0	160-3800	7.0	(k)	2-(1)	1-16	30	.341	.007H	.010H	.012
Playboy..... Four, A-48	90	4-2½x3½	13.2	91.0	40-3600	7.5	...	CH-C8	2-1	45	.314	.012H	.012H	.012
Plymouth..... Six, P-15	117	8-3½x4½	25.3	217.8	95-3600	6.6	120	AL-5	2-1	45	.340	.008H	.010H	.014
Pontiac..... Six, 25	25	8-3½x4½	30.4	239.2	83-3400	6.5	160	AC-45	2-1	30	.312	.012H	.012H	.012
Pontiac..... Six, 27	27	8-3½x4½	33.8	248.9	107-3700	6.5	158	AC-45	2-1	30	.312	.012H	.012H	.012
Studebaker..... Six, 7G	112	6-3½x4	21.6	168.6	80-4000	6.5	105	CH-17	2-(1)	45	.312	.016C	.020	.020
Studebaker..... Six, 15A	119	6-3½x4½	26.3	226.2	84-3800	6.5	108	CH-17	2-1	45	.343	.016C	.020	.020
Willys..... Six, 863	104	8-3½x4½	21.6	149.6	72-4000	6.4	110	AL-A7-F	2-1	45	.340	.014	.014	.014

FWD—Flywheel Vibration Damper
N—Negative
TC—Top Center
CC—Cold
CG—Crankshaft and Camshaft Sprockets
CH—Champion Spark Plug Co.
DH—Distributor Housing
FD—Flywheel

BT—Before Top Center
CA—Automatic Adjustment
AC—AC Spark Plug Div.
AL—The Electric Auto-Lite Corp.
AT—After Top Center
B—Rod removed from below

ABBREVIATIONS

- (a)—Models 81 and 82—126 in., Model 80—133 in., Model 84—138 in.
- (b)—Upper Ring 1 in., Lower Ring .1860 in.
- (c)—Models 25 and 27—119 in., Models 36 and 38—122 in.
- (d)—Plus or Minus 1½°
- (e)—Depression in Camshaft Gear
- (f)—Do not recommend using a dwell meter for checking point opening

With Standard Accessories
Rod removed from above
Rod removed from below
Plus or Minus 1½°
Depression in Camshaft Gear
Do not recommend using a dwell meter for checking point opening

King Pin inclination 1½°

King Pin inclination 1½°</p

SHOP KINKS

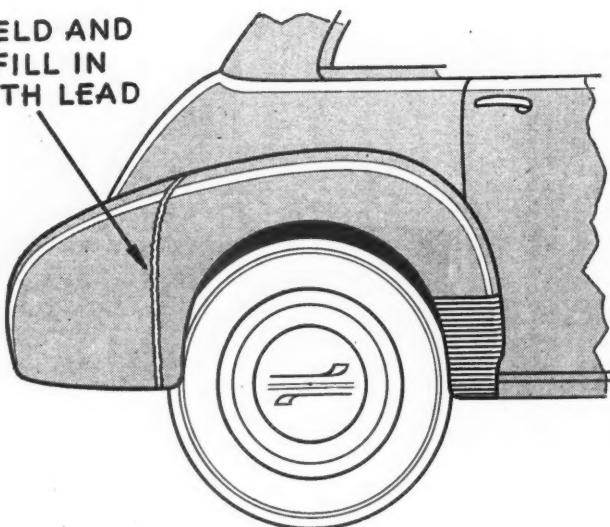
\$25



FOR THE BEST KINK
PUBLISHED EACH MONTH



WELD AND
FILL IN
WITH LEAD



Front Door Cap Repairs Chevrolet Rear Fenders

I have found an easy way to repair badly rusted out rear fenders on 1941 and 1942 Chevrolets. We just take a door cap, front door part number R 3663518 or L 3663517, and cut off the offset where it fits the door. It fits very closely. Then, by welding and smoothing off with lead, it will make a nice job. We have found this to be a very satisfactory method in this type of fender repairs. Philip Devereaux, Devereaux Motor Sales, Cor. 2nd and Buffalo Sts. Freeport, Penna.

Removing Gas Tank Straps When Nuts Are Rusted

To take gas tank straps off cars when the nuts are frozen on the threads, I take a bolt cutter and cut the end of the bolts just under the chassis cross member and the straps fly off. To install the same straps I get two bolts a little longer than the ones I cut off and cut the heads off. Then I weld them to the bolt remaining on the straps. I put two new washers and nuts and my job is done.—Joseph Matto, B & W Service Garage, 150 Broadway, Newark, N. J.

Hooking Cable On New Windshield Wipers

On the new cable driven windshield wipers we find it very difficult to get enough slack cable to hook the ends in the pivot slot. I find by moving the swipe arm off the windshield down on the cowl, that it lets the cable travel just far enough that the ends can be hooked in with greatest of ease and then the arm can be brought back into place.

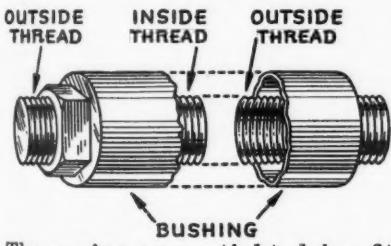
This applies to the latest Buicks and Studebaker cars. Roscoe R. Hamilton, Fraub Bros. Inc., 122 So. Third Street, Yakima, Wash.



Surer than the races, steadier than hitting the jackpot. The faster you write 'em, the richer you get. 25 bucks for one lucky fellow! So grab your pencil and spike at least a fin. Send along your idea—write it or draw it, anyway that we can understand it—some short cut to make a job easier or faster, some special tool you can't buy, some kink of your own. Of course, we won't accept any printed by any other publication.

Replacing Carburetor Riser Pin On Hudson

On all Terraplane and Hudson cars from 1932 to 1942 there is a $\frac{1}{4}$ x $1\frac{1}{4}$ inch pin in the side of the carburetor riser on the exhaust manifold that carries the crank that links the carburetor to the foot throttle shaft.



These pins are a tight drive fit into the riser, and when they become worn where they require renewing, it is practically impossible to get them out without removing the complete manifold and drilling them out. You cannot get to them to drill them out with the manifold on the car, and in trying to drill them out you are likely not to drill the center of the pin, in which case the hole will be too large and the new pin will not be tight. I take a $\frac{1}{2}$ inch SAE bolt 4 inches long with about $1\frac{1}{4}$ inches of threads. Saw off the head end of the bolt so the over all length is $2\frac{1}{2}$ inches. Drill a $\frac{3}{16}$ hole 1 inch deep in the center of the head end. Now

run a $\frac{1}{4}$ -20 tap in the hole. Use bushing $1\frac{1}{4}$ inches long. Now take a $\frac{1}{4}$ -20 in. die and thread the old pin on the manifold, the die can be run over the old pin with your hand. To pull the pin out of manifold simply screw the $\frac{1}{4}$ inch threaded end of the $\frac{1}{2}$ in. bolt on to the old pin. Slide the piston pin over the bolt and up against the manifold. Screw a nut on the $\frac{1}{2}$ in. SAE thread and up against the wrist pin until the pin is pulled out of manifold. N. A. Croson, Croson's General Auto Repair, 2426 Cass Avenue, Overland 14, Missouri.

Automatic Back-up Switch for Chrysler Cars

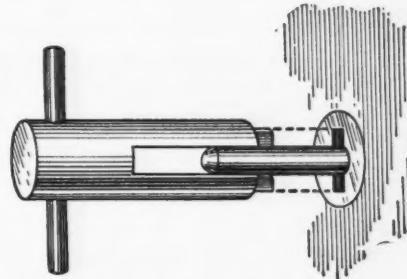
As far as we know there is no automatic back up light switch available for Chrysler cars. We are using pillar switches on the left front door post just like those used on the right front door post for the dome light.

Connecting the switch wire to the tail lamp circuit for current makes it work only when the headlamps of parking lights are on.

Most people when backing open the door, which operates the light, making it quite practical. Albany Oil Co., % E. H. Welle, Albany, Minnesota.

Mopar Dash Nuts Removed With Tool Made With Bolt

On the manual choke or Mopar heater switch lock nut, the center has a hole for the shaft with a slot on each side of the hole. My tool removes this lock nut. Use a $\frac{1}{2}$ -in. x 3-in. carriage bolt. Cut the head off and use a $\frac{1}{4}$ -in. drill and drill through the center of the bolt about 2 in. Cut back from the drilled end $\frac{1}{4}$ in. so as to leave two teeth, one on each side of the hole. Use a file to fit the teeth to the slots. The shaft or threaded end of the control goes into the drilled hole in the bolt



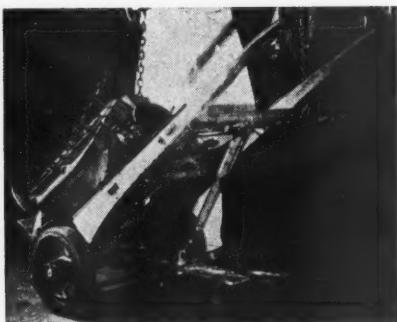
while the two teeth fit the slots in the dash lock nut of the switch or control. For a handle, drill a hole through the bolt at the back end and thus use a length of welding rod. H. K. Murphy, c/o Leo Rocca, Inc., 4301 Connecticut Avenue, N.W., Wash., D. C.

New Products

CONTINUED FROM PAGE 49

K-9 Tilt Truck Attachment

The Universal Tilt Truck Attachment, manufactured by the Melooz Manufacturing Co., Los



Angeles, Cal., converts the user's own hand truck into an adjustable three-wheel unit, and is designed for use in motor block handling, as well as for moving other heavy objects encountered in shop work. The truck is supported by a platform equipped with a rubber tired caster, and a telescoping tube, adjustable for height.

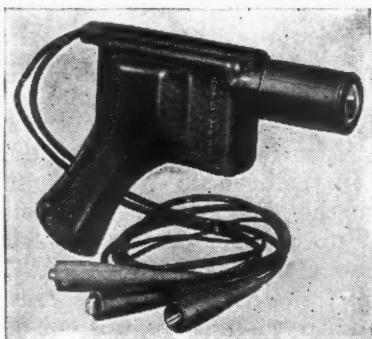
K-10 Ford Shock Kits

The Houdaille-Hershey Corporation, Buffalo, N. Y., announce their Direct-Acting Shock Ab-

sorber Conversion Kits for all Fords and Mercurys produced since 1935. This conversion can be made without redrilling the frames or other such complications, the manufacturer states, and the kits are packaged for either complete front or rear installation.

K-11 Auto-Test Light

Auto-Test, Inc., Chicago, Ill., is now marketing a timing light said to be bright enough to enable mechanics to set timing in broad daylight. Basis of this



light's brilliancy is its Sylvania-developed miniature stroboscope bulb. The body of the Auto-

Test Timing Light is molded of a special neoprene rubber that is said to be completely oil and grease resisting.

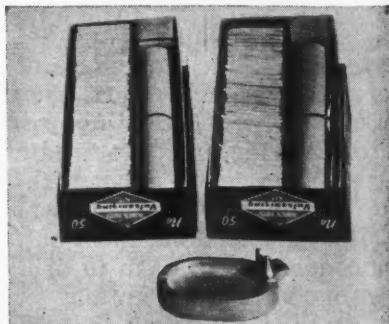
A special condenser is incorporated in the system, designed to prevent possible burning out of the light, should it be hooked up in reverse.

K-12 Battery Preserver

The Willard Storage Battery Company, Cleveland, Ohio, has developed a battery stock preserver, designed to facilitate the handling of large inventories of batteries. The Willard stock preserver is said to eliminate the burden of rotating stocks, checking, recharging, flushing and finish-charging batteries before deliveries are made to dealers. The manufacturer states that this stock preserver automatically maintains stocks of up to fifty batteries with a full charge until sold, and operating costs for stock-preserving fifty batteries are estimated to be less than the cost of burning a single 100-watt lamp.

K-13 Whiz Patch Kit

Whiz Automotive Division of R. M. Hollingshead Corp., Camden, N. J., announces their Rubber Patch Vulcanizing Kit, with



MAIL THIS COUPON:

For further information on any of the products mentioned in Motor Age write the code number of the product in the space provided below. Don't forget your name and address.

Frank P. Tighe
MOTOR AGE
Chestnut & 56th Sts., Philadelphia 39, Pa.

Code Number of New Products.....

.....

Your Name..... Your Title.....

Your Company.....

Address..... (STREET & NO.) (CITY) (ZONE) (STATE)

specially compounded heating elements fabricated in wafer form. These elements are unaffected by moisture, the manufacturer states, and produce higher, more uniform temperatures.

Patches can be applied on both natural and synthetic rubber, and are supplied in a single roll of rubber stock.

"THE 1949 LINE OF STUDEBAKER TRUCKS IS NOTHING SHORT OF SENSATIONAL"..."THIS

IS THE TRUCK THE PUBLIC WANTS"..."A TRUCK LINE WE'RE PROUD TO BE A PART OF"

"HIGHLY ELATED OVER THE NEW LOOK OF THE STUDEBAKER COMMERCIAL VEHICLES"..."MAKES

US ASSOCIATION MORE THAN EVER BEFORE ASSOCIATION WITH STUDEBAKER"..."NOTHING

COULD BE BETTER THAN STUDEBAKER"..."AMAZING TRUCKS THAT THERE'S GOLD IN

THEM THAR STUDEBAKER FIFTY-EIGHT MODELS FOR ALL STUDEBAKER DEALERS"..."A

SENSATIONAL AND EXCITING CREATION—A TRUCK THAT GOES THE WORLD"..."WOW,

WHAT A BEAUTIFUL LINE"..."SALES WILL PROVE NEW TRUCK FINEST IN INDUSTRY"

"IT WILL BE A PLEASURE TO SELL THESE NEW MODELS"..."

"NOW I HAVE SEEN EVERYTHING

I LOVE IT"..."STUDEBAKER

TRUCKS HAVE PAYLOADS OF

DIRT FOR DEALER ORGAN

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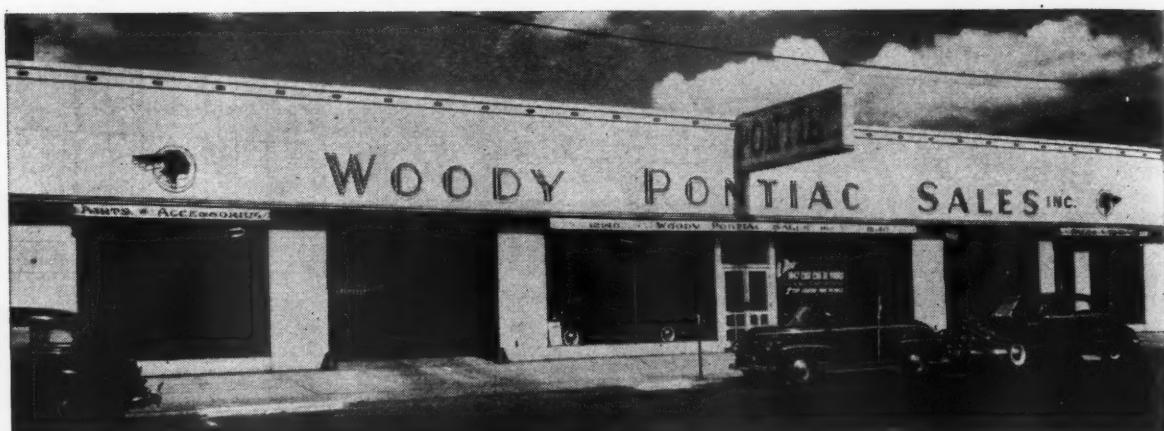
INDUSTRY TO THE PUNCH"...

ITION WILL SURELY KNOW THAT

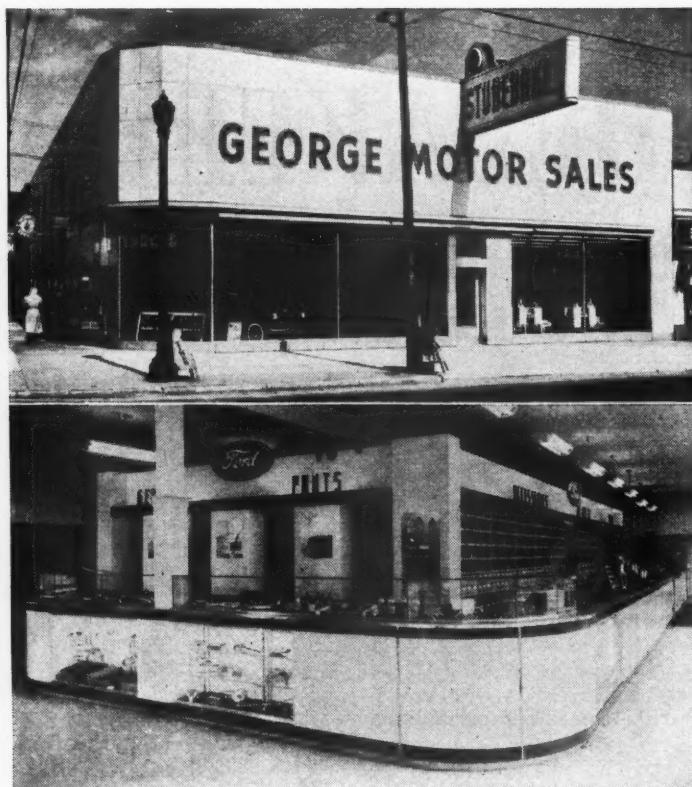
IN THE TRUCK BUSINESS"..."WE FEEL THEY ARE GOING TO DOMINATE THE TRUCKING IN-

DUSTRY"..."BEST LOOKING LINE ON THE MARKET WITH FEATURES THE PUBLIC WANTS"

"THESE TRUCKS HIT THE JACKPOT LIKE NEW STUDEBAKER CARS DID"..."STUDEBA



Hints on Building Construction and Remodeling



This is the first of several articles offering ideas on building improvement.

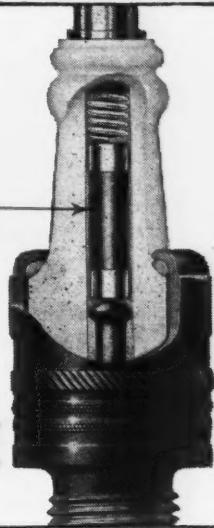
ONE of the most effective means of keeping ahead of the automobile sales picture during the coming buyer's market is by anticipating competition with an attractive building. One relatively inexpensive answer to dealer building requirements is provided by architectural porcelain enamel, used as illustrated in the accompanying photographs.

Porcelain enamel on steel is now available in building panels of any color of the rainbow, from brilliant hues to soft colors, and in a variety of surface finishes, from the smooth, highly reflective type familiar on household appliances and fixtures, to dull surface textures. Porcelain enamel building panels can be custom made to suit most

CONTINUED ON PAGE 122

NEW AUTO-LITE *Resistor* SPARK PLUG

NEW
BUILT-IN
“RESISTOR”
AIDS
PERFORMANCE

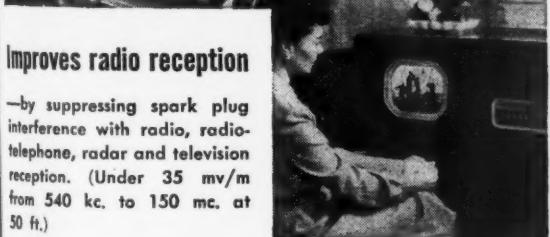


New Auto-Lite Spark Plug Has Built-in “Resistor” That Helps Deliver Smoother Idling, Better Radio Reception — Gives Improved Economy and Longer Electrode Life



Gives smoother engine idling . . .

—because of the wider initial spark gap setting possible on the “Resistor” plugs. This assists in burning leaner mixtures, and reduces misfiring at idling and throughout the speed range.



Improves radio reception

—by suppressing spark plug interference with radio, radio-telephone, radar and television reception. (Under 35 mv/m from 540 kc. to 150 mc. at 50 ft.)

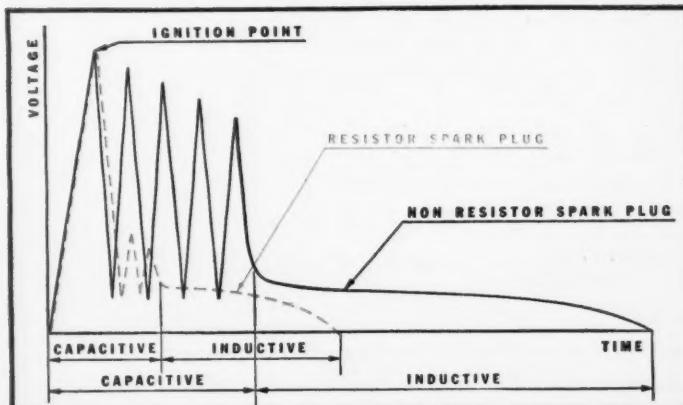


Reduces electrode gap growth

—by increasing electrode life up to 200% and more . . . due to the virtual elimination of the inductive component in the spark discharge.

Dealers are being supplied as rapidly as possible

AUTO-LITE Ignition Engineers, working with leading automotive manufacturers, have developed the new Auto-Lite “Resistor” Spark Plug with this built-in resistor for improved operation and economy. Regular type Auto-Lite Spark Plugs (patented U.S.A.) will continue to be manufactured.



All spark plugs, including the new Auto-Lite Resistor Spark Plug, ignite the fuel on the first peak of the capacitive component. However, the Resistor Spark Plug damps the remaining peaks so that radio, radar, and television interference is held to an acceptable level. Also, the Resistor virtually eliminates the inductive component that serves only to burn away the electrodes on ordinary plugs. The gap life of the plug is thus increased, making possible wider initial gap settings.

THE ELECTRIC AUTO-LITE COMPANY

Merchandising Division

Toronto, Ontario

Toledo 1, Ohio



ing the oil filter cartridge every 8,000 miles.

IMPROPERLY FITTED RINGS—Much cylinder wear is caused by improperly fitted piston rings. Before installing rings it is always wise to measure the end-gap of the ring in the cylinder. If the gap is too small, the expansion of the ring

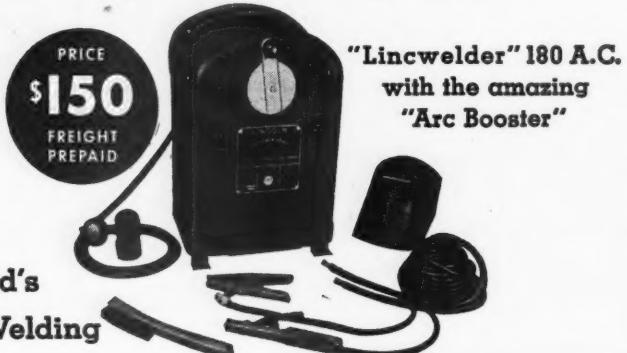
under heat may cause the ends to butt, thus causing abnormally high wall pressure, breaking the oil film, and making metal to metal contact. This will greatly increase wear. It can be avoided by staying above the minimum gap as prescribed by the manufacturer. In case it is necessary to increase the gap, the ends

may be filed down, as shown in the figure or by clamping a fine file in a vice and removing metal from both ends evenly. However, never file a .020 in. oversize ring down to fit a .010 in. oversize cylinder, as such a ring will not give even pressure on the cylinder walls and will not make 100 per cent contact. When in doubt as to the correct set, consult the manufacturer of the rings.

With new or expanded pistons, piston clearance must be considered. A tight piston can cause as much wear as tight rings. Allow .001 in. for each inch of cylinder diameter on cast iron pistons, and .002 in. for aluminum alloy.

New Lowest Priced Welder Has Easy Striking Arc

SEE IT
TRY IT



The World's
Easiest Welding

Accessories as shown \$19.00

Automatic Arc Striking. With the new "Lincwelder's" sensational "Arc Booster" the arc is automatically started the instant the electrode touches the work . . . eliminates bothersome scratching and electrode sticking. This easy arc striking together with "Lincwelder's" highly stable arc now makes welding so simple that a beginner can learn to weld in a few minutes.

Welds All Kinds of Work. Repairing, hard surfacing and building equipment is done efficiently with the welder's broad range of 20 to 180 amps. Any EXACT welding current is quickly dial selected . . . there are no taps to change or plugs to shift.

Safe to Operate. "Lincwelder's" low

open circuit voltage of 52 volts makes this welder safe under all conditions. High voltages and high frequencies needed on some welders to make arc striking possible are entirely eliminated.

Ideal for Rural Power Lines. The input current never exceeds 37 amps. when welding at 180 amps. Approved by power companies and REA.

Lowest-Cost Welder. The "Lincwelder" has the same high quality construction and many features found only in Lincoln industrial welders, yet sells at the lowest price of any welder of this capacity.

See it...try it yourself. On display at your local Lincoln Weldealer. Ask for details in Bul. 370. The Lincoln Electric Company, Dept. 324, Cleveland 1, O.



Repairs Broken Castings. Welding is quick and easy . . . no preheating necessary. The above radiator connection is fixed in a jiffy by grinding the break to a vee form and welding with "Ferroweld."



Repairs Car Bodies. "Lincwelder" speeds repair jobs of all types and sizes, from torn fenders to wrecks like the one shown above. The break in the frame is quickly welded with "Fleetweld 47".

Advertisement



"Now, where doesn't it hurt?"

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fine
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PAGE 72

"You'll find Snap-on Tools

in every man's tool box
in this shop"

—says Andy Johnson, Service Superintendent
of Paul Manning Chevrolet, Des Moines, Iowa



Andy Johnson *knows* Snap-on tools . . . he's been using them for 16 years! And like most Service Managers, he knows from experience that a complete kit of Snap-on tools encourages speed and good workmanship. He knows, too, that every call of the Snap-on field man helps keep tool kits up to par . . . that his method of selling not only is "the time-saving way to buy time-saving tools", but provides an opportunity for every mechanic to have the *right* tool for every job.

Snap-on's direct-to-user tool service is available everywhere through 40 direct factory branches and 700 trained field representatives.

SNAP-ON TOOLS CORPORATION
8036-G 28th AVENUE, KENOSHA, WISCONSIN
International Division: Kenosha, Wis., U. S. A.



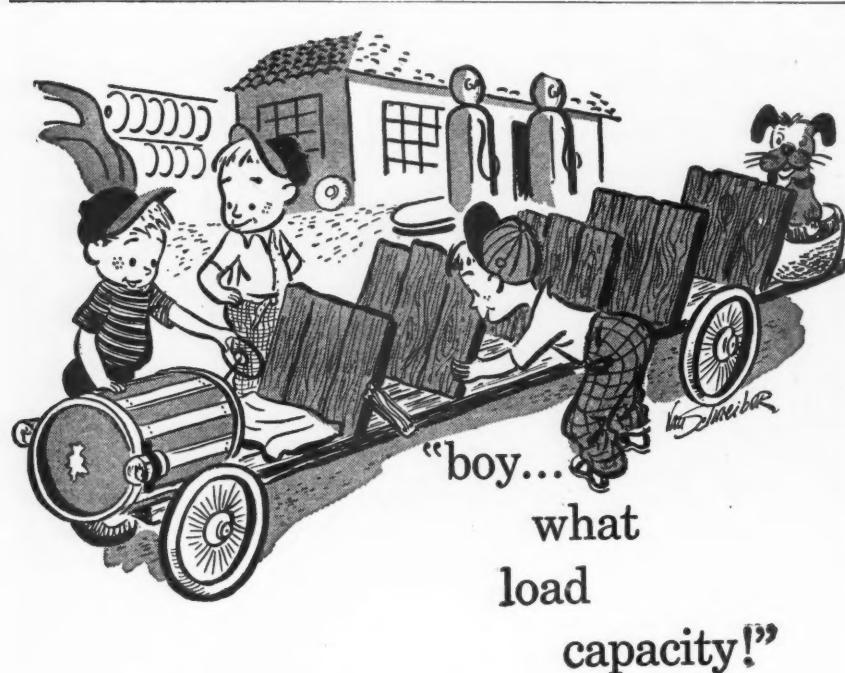
For 28 years, Snap-on's
Direct-to-user Tool Service
has proved to be
"The Time-Saving Way
to Buy Time-Saving Tools"

Cylinder Wear CONTINUED FROM PAGE 70

studs, a cylinder will distort sufficiently when hot to wear unevenly, no matter how well the rest of the job has been done.

POOR LUBRICATION AND SCUFFING — The problem of scuffing is serious because it is difficult to overcome. Scuffing is the roughening of the surface of the piston rings or cylinders

caused by metal to metal contact. Although scuffing will smooth, or heal under ordinary conditions, it still induces abnormal wear. The two main causes of scuffing are inadequate lubrication for the top compression ring, and excessively high cylinder wall temperatures. A mechanic's recommendation of a



That's right . . . they're right.

And so are the thousands of ball bearing users who put an extra load margin in automotive assignments with Federal Ball Bearings. Federals are *original equipment* bearings, made in every range and size.

Next time you order—order Federals. There's an NAPA jobber near you. He carries the complete Federal line. Why not call him now?

THE FEDERAL BEARINGS CO., INC.
Poughkeepsie, New York

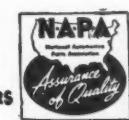
Makers of Fine Ball Bearings

Distributed Nationally Through
LOCAL N.A.P.A. WAREHOUSES AND JOBBERS



FEDERAL BALL BEARINGS

ONE OF AMERICA'S LEADING BALL BEARING MANUFACTURERS



Quality Since 1908

high-viscosity oil, because a customer complains of 20W burning out too fast, may result in far more bitter complaints later on. The oil must be sufficiently thin to reach the top ring, and still have the quality to withstand the high temperatures sustained by the top portion of the cylinder. "Adequate" lubrication, means just enough lubrication to prevent scuffing. If the top ring is completely starved of oil, there is metal to metal contact, and consequently an increase of temperature due to friction. After internal cylinder temperatures of 700 degrees are attained, a temporary welding condition may take place between the ring and the hottest spot on the cylinder wall. This is the action which causes most of the damage to the cylinder. Another reason for insufficient oil reaching the top ring is an oil ring with excessive tension. When such a condition exists, there is not enough oil getting past the oil ring to furnish the thin lubricating film, so once again we have metal to metal contact, and subsequent damage. By using the correct viscosity of high grade oil, and rings designed for that particular job, most of the trouble can be avoided.

RICH MIXTURE — Many

CONTINUED ON PAGE 74



"These are particularly interesting—we've added a mother-in-law!"

----- PROFIT 3 WAYS! -----

Monmouth Life Saver

CHASSIS PARTS



Installed to your own high standards of workmanship, Monmouth Chassis Parts provide your customers maximum security on the highway because these parts are built to original equipment specifications—in quality of material, dimensions and workmanship.

You thus contribute to customers' highway safety. It pays off in customer confidence and patronage—and in personal satisfaction. Sell the safety idea and price will be no factor in

your service work.

The Monmouth line of king bolts, drag links, wheel suspension parts, tie rods and shackles is complete—for all popular make cars and trucks. They are packaged in assembled sets in distinctive boxes and distributed coast to coast by N.A.P.A. jobbers to provide the most efficient and economical service in the parts field. Ask your jobber for MONMOUTH Chassis Parts—the Safety Line.



Your
NAPA Jobber
is a Good Man
to Know!

MONMOUTH PRODUCTS COMPANY • Cleveland 3, Ohio

FOR ENGINE BEARINGS
CLUTCH PLATES AND PARTS
CHASSIS PARTS

Monmouth
Trade Mark is the name

Cylinder Wear CONTINUED FROM PAGE 72

traces of cylinder wear have been caused by early opening of the automatic choke, excessive fuel pump pressure, or a carburetor which was adjusted too rich. In each case there is an overabundance of raw gas coming into the cylinders. This gas dilutes and washes away the oil lubricating the top rings, thus

causing metal to metal contact, which induces rapid wear of the cylinder walls. Although the mechanic may be thoroughly familiar with the importance of correct carburetor adjustment, he may not have considered this possibility.

CORROSION — Corrosion is present to some degree in all in-

ternal combustion engines. It occurs primarily near the top of the cylinder where the lubricating oil film has been burned off and the surface is exposed to the acids formed by the partially burned fuel. A high humidity air intake tends to speed this reaction. Poor combustion also accelerates corrosion, because of the less complete combustion of the fuel and the greater acid formation. Although cylinder wear due to corrosion cannot be completely avoided, it can be minimized by the use of high grade fuel and periodic engine tune-ups. Correct carburetor adjustment and a properly functioning ignition system will assure maximum fuel combustion.

MISALIGNED CONNECTING ROD — Assuming the crankshaft to be perfectly in line, we now consider the possibility of a bent or misaligned connecting rod. Such a condition shown in figure, marked "A," will cause the piston to travel with pressure directed against one part of the wall, thus causing an out of round wear. The force is absorbed by the cylinder wall at right angles to the wrist pin, due to the angular motion of the connecting rod combined with the extreme pressure exerted on top of the piston by the expanding gasses. This type of wear is a normal function and ordinarily presents no unusual problem, so long as the connecting rods are

CONTINUED ON PAGE 76

Thexton
PISTON EXPANDERS

insure good **RING JOBS**

**CURVED LIP, SLIDING ON PIN BOSS,
COMPENSATES FOR VARIATION IN HEAT
EXPANSION SO THAT THE PRESSURE
IS CONSTANT AT ANY TEMPERATURE**

Thexton **MANUFACTURING CO.**
1313 Winter Street, Minneapolis 13, Minn.
Products the mechanic knows and trusts



"Your uncle willed his perfume business to his employees and cut you off without a scent!"

Extra Starting Power!
Extra Long Life!
Extra Dependable!



MOPAR PowerLine BATTERIES

Car owners who have 'em—like 'em!

That's because MOPAR Power Line Batteries can give and take. They can give that long-life, dependable power because their sturdy, tough construction enables them to take long, hard service.

And here's still another reason why more and more owners are making MOPAR Power Line Batteries first choice. These powerful, rugged replacement batteries are designed by Chrysler Corporation engineers, are

made solely for Chrysler Corporation—Parts Division, and are distributed exclusively through Plymouth, Dodge, DeSoto and Chrysler dealers.

To owners of cars and trucks built by Chrysler Corporation this means added assurance of top quality and performance.

Plan now to boost your battery business! Recommend and install dependable MOPAR Power Line Batteries.

CHRYSLER CORPORATION • PARTS DIVISION • DETROIT 31, MICHIGAN



Here's where to go for MOPAR Power Line Batteries

You can get MOPAR Power Line Batteries from your nearest Plymouth, Dodge, DeSoto or Chrysler dealer.

Approved by
Chrysler Corporation
Engineers for...



PLYMOUTH • DODGE
DE SOTO • CHRYSLER CARS
DODGE "Job-Rated" TRUCKS

in perfect line. However, a slightly bent connecting rod can accentuate the condition sufficiently to cause abnormal wear.

SURFACE DISINTEGRATION — Excessive heat generated during machine finishing with the use of excessively high pressure or high abrasive speeds during a reboore job may form a

slight change of the metallurgical structure of a thin portion of the liner. In effect, it is a smeared surface. A mechanical breakdown of the liner surface may occur without any breakdown of the lubricating oil film. This type of wear, in its most advanced stage is that previously described as "surface disin-

tegration." Such a condition causes infinitesimal particles of metal to separate from the cylinder wall and become suspended in the oil. This acts as a very fine abrasive, causing major wear on the cylinder walls.

Brown is Sales Manager Of U. S. Rubber Division

Harry W. Brown has been appointed sales manager of the automotive department, United States Rubber Company. He succeeds S. E. Abramson, who retired this year. Mr. Brown will have general supervision over the sale of several hundred automotive parts, including rubber-to-metal and all-rubber molded parts, steering wheels and fan belts. He will be located at the company's Ft. Wayne Plant.

Hughes Named Littlefuse Sales Vice-President

Jack Hughes has been appointed vice-president in charge of sales of Littlefuse, Incorporated, Chicago. Hughes, a native of Flint, Mich., has spent his career to date in the automotive field. He was formerly with the public relations department of General Motors.

**TOUGH
U.S. AXLES**

Made tough . . . tough as possible to overcome breakdowns, cut maintenance costs. Truckers find they save dollars by using them always. Ask your Jobber.

THE U.S. AXLE CO., INC., POTTSTOWN, PA.

US AXLES

FREE: New Catalog. Contains listings U.S. Heavy Duty Replacements for Army Surplus Trucks. Write!



"Kindly step to the rear, please!"

Photo courtesy Bob Reese Motors Inc.,
Toledo, Ohio



**These four essentials
comprise the
Complete Package
Paint Shop**

- 1. A Spray Booth**... providing adequate exhaust, scientific illumination and positive dust protection.
- 2. An Assortment of Spray Equipment**... for factory quality results on all kinds of jobs with any spray material.
- 3. An Adequate Air Compressor**... to provide ample low cost air for all paint shop and service requirements.
- 4. Hose and Connections**... designed and built specifically for spray painting service.

DeVilbiss Complete Paint Shops . . . Give More Cars "New Car" Beauty

Do "Factory-Quality" repainting on a mass production basis. Don't let inadequate facilities and outmoded methods deprive you of your share of today's tremendous refinishing market. DeVilbiss Complete Paint Shops provide the means for maximum profits from repainting.

A dust-proof spray booth prevents airborne dirt from contaminating the finish. Specially engineered ventilation assures thorough exhausting of spray vapors. Scientific illumination enables operators to always apply a full uniform coat without going back over the job. And a balanced assortment of spray guns, material containers, regulators and other related essentials is included for specialized as well as general refinishing jobs. Your DeVilbiss distributor will gladly explain these and other unusual features of the Complete Paint Shop that enable you to give more cars "new car" beauty at greater profit.

THE DEVILBISS COMPANY • Toledo 1, Ohio

Canadian Plant: WINDSOR, ONTARIO

DE VILBISS



means Quality in all four . . .

**SPRAY EQUIPMENT
EXHAUST SYSTEMS
AIR COMPRESSORS
HOSE & CONNECTIONS**



SOMETHING EXTRA IN BRAKE SERVICE, TOO

You're providing something extra in the way of brake safety when you suggest a flush and fill job to your brake fluid customer. Doing a thorough cleaning job of his brake system with Puritan Hydraulic Brake Flushing Fluid and refilling with Puritan "all-miscible" Hydraulic Brake Fluid may prevent a failure of the brake system from dirty, gummy, overworked brake fluid.

Besides customer satisfaction from an assurance

of safe braking, a flush and fill job means a bigger sale, and more profit to you with very little extra effort. Puritan Flushing Fluid works quickly and efficiently and gives a clean brake system, ready for long-lasting, non-gumming, Puritan Brake Fluid.

Get your supply of these two Puritan brake servicing products and start making something extra now. These and the other Puritan products available from your NAPA jobber.

FLUSH AND FILL FOR BRAKE SAFETY



1. Clean hydraulic brake line with fast-acting Puritan Hydraulic Brake Flushing Fluid.



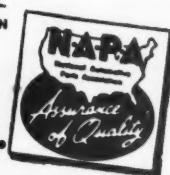
2. Refill with non-gumming, all-“miscible” Puritan Hydraulic Brake Fluid.

125 YEARS OF CHEMISTRY FOR TRANSPORTATION



PURITAN COMPANY, INC.
ROCHESTER 6, NEW YORK

HYDRAULIC BRAKE FLUID AND FLUSHING FLUID • GASKA-SEAL NO. 1, 2 AND 3
SHOCK AND KNEE-ACTION OIL



Johnson Elected President of Warner Machine Products

Abbott L. Johnson has been elected President of Warner Machine Products, Inc., Muncie, Ind., automotive parts manufacturers. Mr. Johnson, Vice-President and General Manager since 1933, is a member of the Society of Automotive Engineers, and Chairman of the Indiana Veterans Affairs Board.

Other officers elected at the same meeting were Chairman of the Board, C. S. Davis; Vice-President, E. F. Ball; Vice President, R. P. Johnson; and Secretary and Treasurer, J. E. Johnson.

Baum Appointed General Manager of Reflex

C. C. Fenner, President of the Reflex Spark Plug Company, Cleveland, Ohio, announced recently that John E. Baum would take over duties as General Manager of Reflex. The appointment would be effective immediately. Baum has been with the company for more than 23 years. He started as chief electrician in 1925 and held several positions in the company before his recent appointment.



"The Judge is taking no chances on this jury!"

DELCO'S *the* CHOICE



DELCO SHOCK ABSORBERS
A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Because it's the only
COMPLETE line
of Shock Absorbers

Your choice of Delcos for service and replacement follows naturally when you study the field and realize your money-making opportunities with the Delco line. For only Delco can provide you with the right type of shock absorber for every make of car—single-acting or double-acting, knee-action or direct-acting type. And with 65,000,000 Delco Shock Absorbers in use today, you are assured of a continuous market for replacement and repairs. Delcos are priced to compete with even the "bargain" lines. Profit from our leadership . . . let your choice be Delcos—one line, one quality, one price. Delco Shock Absorbers are distributed exclusively through automotive wholesalers and car dealers.



DELCO HYDRAULIC SHOCK ABSORBERS

Here's how Du Pont helps you

Du Pont will urge motorists (in nation-wide advertisements, such as the one on the right) to invest in a thorough cooling system check-up by you before installing anti-freeze.

IN ITS WIDE-FLUNG "Zerone" and "Zerex" advertising program this fall, Du Pont will sell motorists on the wisdom of having their cooling systems thoroughly inspected and conditioned before putting in anti-freeze.

On the right you see the lower part of one of the advertisements scheduled for this fall. It will run in four colors in Life, The Saturday Evening Post and Collier's. In addition, advertisements carrying a similar message will appear in leading newspapers throughout the country.

Thus millions and millions of motorists about to buy anti-freeze will be reminded of the value of this pre-installation check-up—and that "even a simple inspection is worth what it may cost." This should result in substantially more business for you.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Why it's wise to have
your serviceman inspect
the cooling system before
putting in anti-freeze



1. Inspect radiator—if it's rust-clogged, it should be drained and cleaned. (Du Pont Cooling System Cleanser is one of the best.)

DUPONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

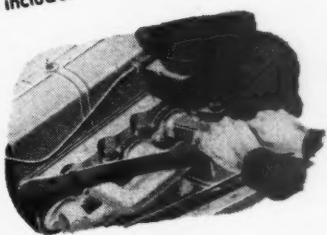
For great entertainment by great stars,
don't miss the Du Pont "Cavalcade of
America"—on NBC stations every Mon-
day evening in the anti-freeze season.

You buy anti-freeze to protect your motor from a freeze-up and to help it run more efficiently by keeping the cooling system free from rust. If the anti-freeze leaks out, what have you got? NO protection . . . maybe a ruined engine block. Heavy expenses to you, your car out of commission. (And you've lost the anti-freeze you spent your good money to buy.)

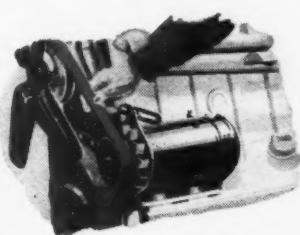
So, before installing anti-freeze, have the cooling system gone over. No repairs may be needed at all—but even a simple inspection is worth what it may cost. Here's what a cooling system inspection should include:



2. Check for leaks—Radiator hose, hose clamps, and pump should be tight. If repairs are needed, serv-iceman will indicate them.



3. Try cylinder bolts—if they need tightening, it calls for a special tension wrench. Your serviceman has the tools and the know-how.

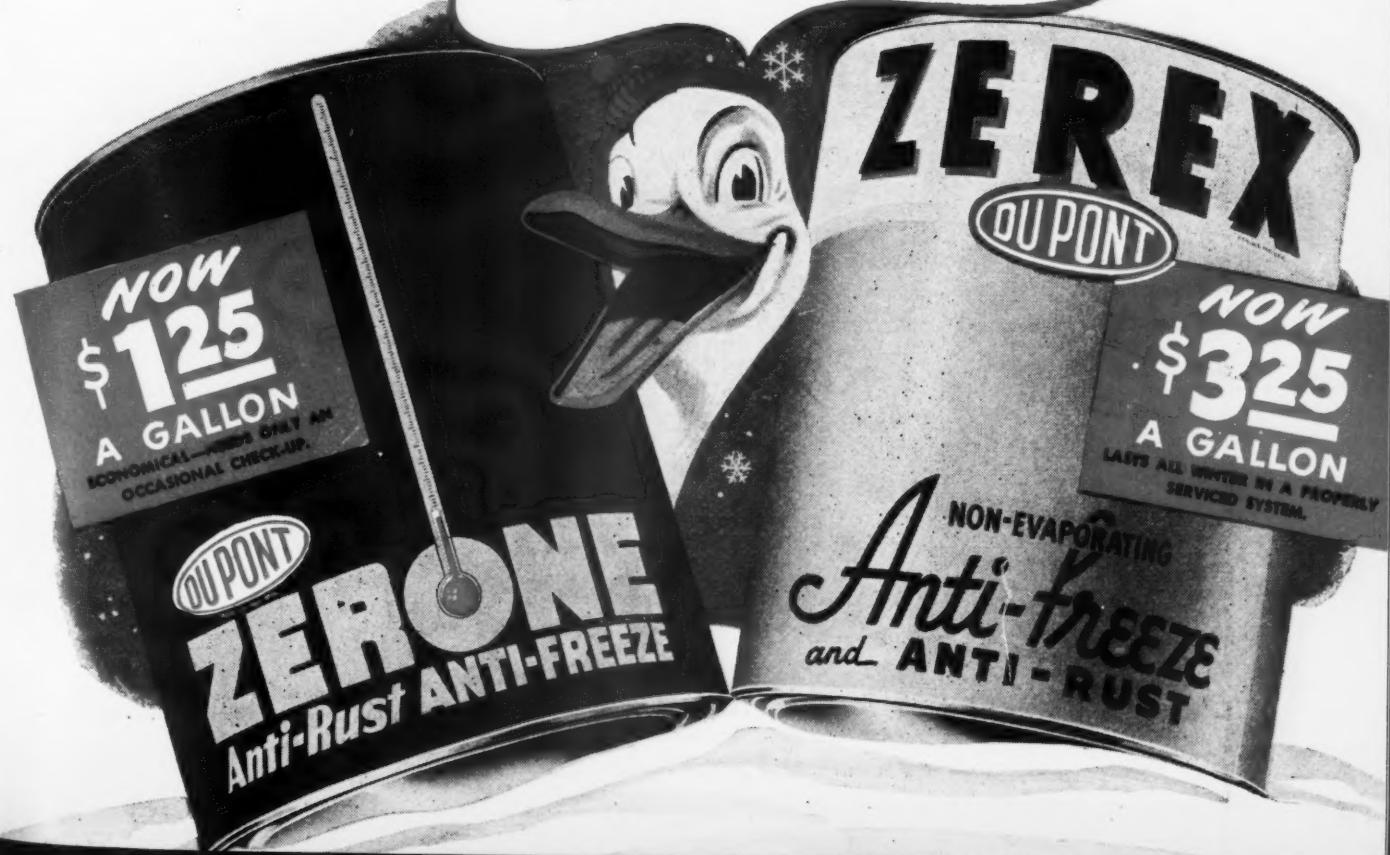


4. Check fan, belt & heater—Slipping belts should be adjusted—replaced, if worn. Heater hoses should drain properly, not trap air.



5. Put in anti-freeze—A "Zerone" "Zerex" chart shows amount needed. Radiator tag identifies anti-freeze, warns against draining.

The name Du Pont makes these easier to sell!



Share Profits CONTINUED FROM PAGE 40

Fouch, "to create a closer relationship between management and employees. Less emphasis is placed on the pay check and more on the success and growth of the whole firm."

Every permanent employee is given shares in the plan. The number of shares that each receives is determined by the man-

agement on the basis of the relative importance of his job correlated with the future profit-potential of the job. At the end of the year, the single share value is established by dividing the total number of shares outstanding into the portion of net profits, before taxes, set aside for distribution. This amount

has been fixed as a minimum of thirty per cent of the company's entire profit. Each employee is then paid according to the number of shares he holds.

Distribution is made at the end of the one-year profit period just before Christmas. New employees become eligible to share in the system after a six month waiting period, when they are given a pro rata number of shares based on the portion of the year remaining. Separation from the company before the distribution date automatically disqualifies the shareholder from participating for the year. Both of these features tend to reduce labor turnover. The six month waiting period also makes it much easier to get rid of a new employee who may turn out to be unsatisfactory.

The profit-sharing plan has been kept flexible. At any time during the year, the management may increase or decrease the number of shares held by any employee, although it intends to use this right only for outstanding contribution to the profits of the company—or, inversely, for obvious lack of effort. At the beginning of each new year, the number of shares to be held by each individual is redetermined after discussion and evaluation by the management of his contribution to the

CONTINUED ON PAGE 86

HERE'S THE **BIG** DIFFERENCE
in Sponge Rubber Strip...

DOR-TITE's
PATENTED NO-STRETCH
FABRIC BACK
PREVENTS CREEPING
OR LOOSENING

DURKEE-ATWOOD COMPANY
Minneapolis 13, Minnesota

DOR-TITE
STICKS QUICK—STAYS STUCK

Dor-Tite's fabric back makes a big difference on the job too! Dor-Tite sticks tight . . . stays right because *it cannot be stretched during application*. No matter where you use Dor-Tite . . . around doors, cowls, hoods, trunks . . . it's there to stay. Prevents rattles, squeaks and rumbles, stops dust and drafts. Self-sealing adhesive back speeds application.



"The poor-house is two miles away,
but there's a short cut through here!"

\$49.00

NEW VAN DORN Heavy-Duty DRESSING STAND for "PRODUCTION" VALVE RECONDITIONING!



THE new Van Dorn Heavy-Duty Stone-Dressing Stand combines speedy operation with absolute accuracy, to cut stone-dressing costs for shops doing a large volume of valve reconditioning! If you're handling that kind of work, this precision tool will save you money by: (1) Reducing stone-dressing time, through faster, easier cutting; (2) Making your stones last longer, because precise adjustments and micrometer feed dress off the minimum amount of material. Study its "all-star" features and you'll plainly see why this Van Dorn unit is the finest ever made . . . for dressing stones on Van Dorn Vibro-Centric* Valve Seat Grinders and other makes as well!



1 Completely calibrated segment, with all popular angles boldly marked, is read from the top for easy visibility and rapid setting.



2 Rigid castings—accurately machined slides and moving parts—take-up adjustments—smooth bearings sealed against abrasive dust . . . all combine to make this the finest precision Dressing Stand ever made.



3 All size and angle adjustments are made by hand, with quick-acting screw-lock clamps. No wrenches, screw drivers or "gadgets" required. It's easy to work with.



4 Handles every possible combination of size (up to 6") and angle (0° to 90°) in valve seat grinding-stone dressing . . . with absolute accuracy and timesaving speed.

FOR POWER SPECIFY

"Van Dorn"
(DIV. OF BLACK & DECKER MFG. CO.)
PORTABLE ELECTRIC TOOLS

*Trade Mark Reg. U. S. Pat. Off.

for HIGH, WIDE and

LEAK-PROOF

REG. U. S. PAT. OFF.

PISTON RINGS

Keep your profits UP THERE
with LEAK-PROOF—the really
new Piston Ring Set! They do
the job right every time—please
customers every time! Only
your McQuay-Norris whole-
saler has LEAK-PROOF, so see
him today!



FLY HIGH...ALWAYS BUY LEAK-PROOF

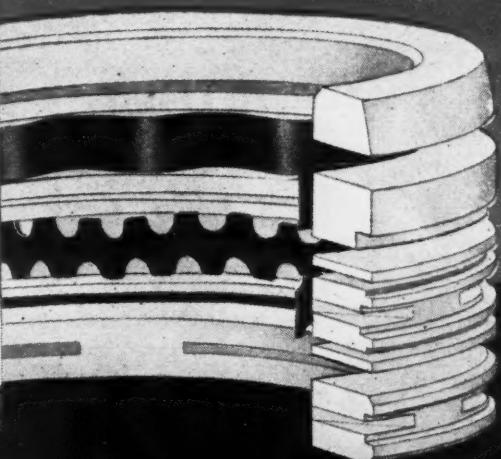
HANDSOME PROFITS

CUSTOMERS
ALWAYS
SATISFIED

PROVED BY
ROAD
TESTS

THE
REALLY NEW
PISTON
RING
SET

OUTSTANDING
PERFORMANCE



GUARANTEED
TO DO ALL **4**

Yes, GUARANTEED

...guaranteed to give satisfactory performance for 10,000 miles or one year, whichever shall occur first, under the McQuay-Norris LEAK-PROOF Piston Ring Replacement and Labor Guarantee available upon request.

1 Keep
oil down

2 Keep
power up

3 Give smooth, new
motor operation

4 Give
longer life

McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS, MO.

Share Profits CONTINUED FROM PAGE 82

welfare of the enterprise as a whole. Relative difficulty of the job is also taken into account.

"We believe that there is a basic fallacy in most incentive plans," says Fouch. "Generally, they extend only to the first echelon below the stockholders and directors of the company. They assume that if the top

management level shares in the company's profits, it will be encouraged to drive employees to greater and more efficient production. We believe that if the plan is good at the top levels, it must be even better when extended all the way down the line."

At Sterrett's, the cooperation

and extra effort of every employee is returned to him by way of an increase in the net earnings of the business. Before the plan was put into operation, department managers voted unanimously in favor of profit sharing for everyone. Although their shares might be fewer, they realized that under this system the value of each share would be greater.

That the profit shared is that of the entire organization, and not that of individual departments, is important. If the parts department, for example, feels that it will lose money in the reconditioning of a certain car taken in trade, it also realizes that the loss will be made up for by the sales department when the car is sold. Undesirable competition within the company is eliminated, since there is no incentive for one group to buck another for a larger share of profits.

No chain of command is involved in the profit-sharing agreement. The president and general manager maintain an "open door" policy. If questions arise, every employee is invited to contact the general manager directly and in private. The number of shares he has received is considered his personal business, and he is asked to keep it that way.

CONTINUED ON PAGE 88



PRECISION BUILDING

GIVES LOGAN LATHES SUSTAINED ACCURACY AND LASTING DEPENDABILITY

V and flat ways of the heavy-ribbed Logan Lathe bed are held to within .0005" of parallelism. The front bearing seat on the Logan Lathe ball bearing mounted spindle can vary no more than .0002". Total spindle runout 12 inches from the bearing is less than .0008". To hold to tolerances like these, one of every seven men building Logan Lathes is an inspector, skilled in the use of the most modern precision instruments. Operations, individual parts, sub-assemblies and completed machines are checked. That is why the Logan Lathe has earned a reputation for sustained accuracy and dependable, low-cost service in all fields of industry. Full information on the complete line of Logan Lathes and Shapers at your Logan dealer's, or on written request.

SPECIFICATIONS COMMON TO ALL LOGAN LATHES . . . swing over bed, 10½" . . . bed length, 43½" . . . size of hole through spindle, 25/32" . . . spindle nose diameter and threads per inch, 1½"—8 . . . 12 spindle speeds, 30 to 1450 rpm . . . motor, ½ hp, 1750 rpm . . . ball bearing spindle mounting . . . drum type reversing motor switch and cord . . . precision-ground ways, 2 V-ways and 2 flat ways.

DISTRICT OFFICES: Woolworth Bldg. New York 7, N.Y. C07-8024 550 W. Washington Blvd. Chicago 6, Illinois Central 1246 2516 N. Ontario St. Burbank, Calif. Charleston 8-1024 700 Commerce St. Dallas 2, Texas Central 4075

S-2-M

LOGAN ENGINEERING CO. CHICAGO 30, ILLINOIS



"SAVES MORE TIME . . . MAKES MORE MONEY"

- Ball Bearings
- Rubber Bumper Guard
- Spindle Lock for Quick Disc Change

THE
NEW *Thor*
STANDARD DUTY
7" SANDER

JUST IN TIME
for Spring tune-ups!

With production timed for the busy spring car beautifying season, the new Thor portable electric sander is packed full of new tool features designed to speed up even the toughest of car sanding jobs...and to reduce operating costs! This new Thor Sander is far more powerful

than any tool in its class—and power means speed and efficiency on sanding jobs. Ball bearings throughout. Equipped with safety bumper guard. New spindle lock provides quick disc changes. See one today at your nearby Thor jobber.

INDEPENDENT PNEUMATIC TOOL COMPANY

Aurora, Illinois

Birmingham	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Denver	Detroit	Houston
Los Angeles	Milwaukee	New York	Philadelphia	Pittsburgh	St. Louis	St. Paul	St. Paul	
Salt Lake City	Seattle	San Francisco	Toronto, Canada				London, England	



PORTABLE POWER

TOOLS

ONLY THOR JOBBERS SELL TOOLS FOR EVERY SHOP'S EVERY JOB!

Share Profits CONTINUED FROM PAGE 86

It has been made clear to all employees that the shares represent no part of their regular wages. They are an opportunity for each man to receive extra his own extra effort—by increasing at the same time the net earnings of the business. Everyone — stockholder, repairman, salesman—is benefited.

How is Sterrett's profit-sharing plan working out? The answer might best be illustrated by an incident which occurred recently. Approaching president Mitchell, the porter said, "You know, Mr. Mitchell, I've never worked in a place like this before. Nobody ever yells at anybody else—and yet the work

gets done."

"Of course," Mitchell adds, "our employees are human. Once in a while voices are raised in an argument. But as for real problems, real trouble—we've never had any."

Kepner Resigns as Hoof Products President

After twenty-nine years of service with Hoof Products Company, H. C. Kepner, the firm's president, resigned recently in order to devote his time completely to other interests. Mr. Kepner served as sales-manager and vice-president until 1943, when he was elected president of the company.

New Pedrick Ads Feature Product Story

Wilkening Manufacturing Co. of Philadelphia and Toronto, maker of Pedrick Piston Rings, has started a new series of trade ads which concentrate on a basic product story.

According to Walter Kirkpatrick, Pedrick's advertising and sales promotion manager, the new series is designed to meet the increasing need for fundamental product selling in the growing competitive market. Thousands of new mechanics and shop owners have entered business in the past three years without getting a real sales story on many products.

• I've lifted the lid for you to look inside. Check these features. They protect a P&D condenser against moisture. Notice that (1) special sealing and insulating compound fills all spaces around winding and case. See how (2) plastic insulating washer is coated on both sides with neoprene to make the cap permanently moistureproof. Then there's (3) the metal grommet stamped around wire braid which also assures a strain-proof connection. Note that (4) our rolled and die pressed sealing method gives absolute sealing . . . closes the outer edges of gasket against moisture.

You see, this *extra quality* in the one complete P&D line is possible because P&D parts are manufactured *entirely in our own plant*. That's why these electrical parts point up your good jobs, keep your customers happy, and put more money into your cash register.

Drop me a line and I'll mail you your copy of Catalog No. 47 right away.

Turn Out Better Tune-up Jobs With PeeDee



P&D

MANUFACTURING COMPANY, INC.

LONG ISLAND CITY 5, N. Y.

STARTING • LIGHTING • IGNITION





*OVER
30,000,000 IN USE
TODAY*

One of the most reliable parts of an engine is the AC Fuel Pump, heart of the fuel system. That's because it is *first quality* in design, material and manufacture . . . built to meet the engine maker's own requirements.

QUALITY FEATURES

A comparative analysis shows that there are from 27 to 38 additional quality features built into AC Fuel Pumps. These quality features are in:

The Diaphragm . . . Castings . . . Top Cover . . . Link . . . Rocker Arm . . . Drain Petcock . . . Screen . . . Valve Cage Retainer . . . Lock Washers . . . Bushings and Linkage . . . Valve Cages . . . Rocker Arm Pin.

It's the many little operations that make quality. Protect your reputation . . . assure customer satisfaction . . . by replacing worn pumps with new AC's and making repairs with authentic AC Repair Kits and Diaphragm Kits.

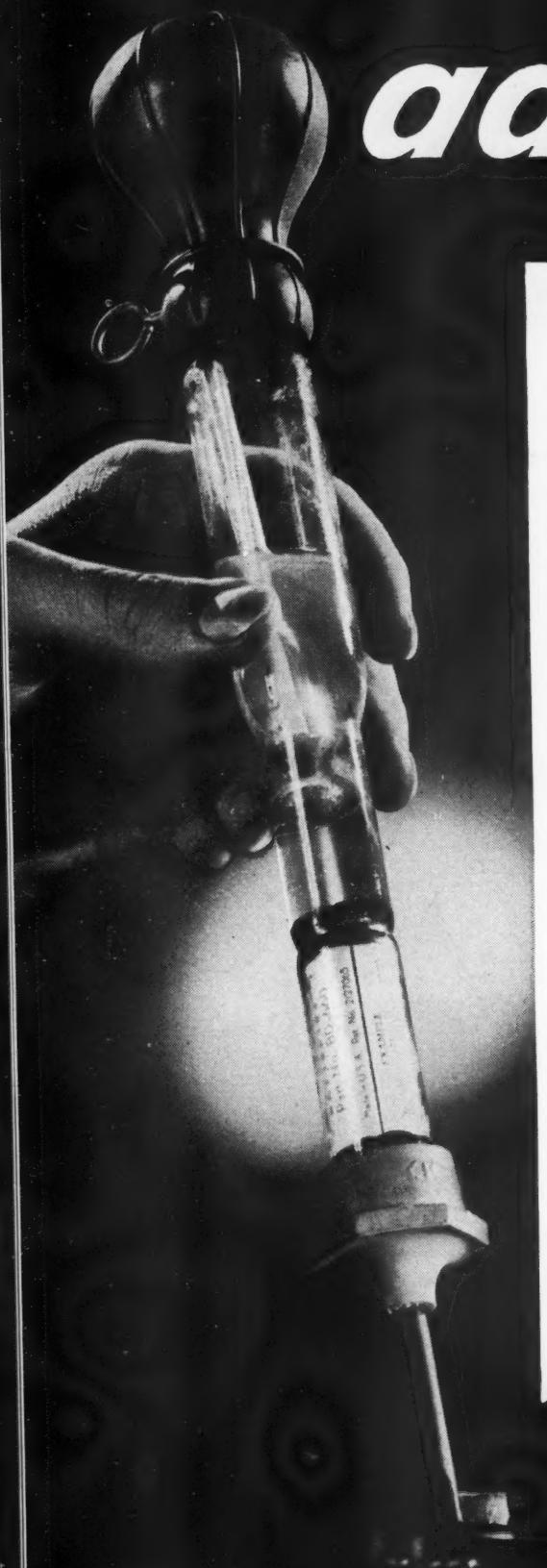
AC FUEL PUMPS



*Featured in AC national advertising,
your customers will look for this sign.*

FAST TURNOVER

advertising



Profits and fast turnover go hand in hand.

**So here's a good rule of thumb to follow:
feature the products that are backed by
advertising in The Saturday Evening Post.
For Post-advertised brands consistently
outsell all others in the automotive field.**

Acme Air Appliance Company, Inc.
A. C. Spark Plug Division,
General Motors Corporation
Allis-Chalmers Manufacturing Co.
American Chain & Cable Co., Inc.
American Coach Co.
American Ocanator Corporation
American Hammered Piston Ring Div.,
Koppers Company, Inc.
Anderson Company, The
Armstrong Rubber Company, The
Atlas Press Company
Auto-Lite Battery Corporation,
Subsidiary of The Electric Auto-Lite Co.
Autopulse Corporation
Bear Mfg. Co.
Belden Mfg. Co.
Bell Company, Inc., The
Bendix Aviation Corporation
Black & Decker Mfg. Co., The
BMC Manufacturing Corp.
Bonney Forge & Tool Works
Borg-Warner Corporation
Bowers Battery & Spark Plug Co.
Bowes "Seal Fast" Corporation
Breakstone & Company
Bright Star Battery Company
Buckeye Iron & Brass Works
Buick Motor Division,
General Motors Corporation
Burd Piston Ring Company
Burgess Battery Company
Butler Engineering Co.
Cadillac Motor Car Division,
General Motors Corporation
Carter Carburetor Corporation,
Division of American Car
& Foundry Co.
Casco Products Corp.

Casite Corp., Th.
Caterpillar Tractor Co.
Central Equipment Company
Champion Laboratories, Inc.
Champion Spark Plug Company
Chevrolet Motor Division,
General Motors Corporation
Chicago Streamlite Corporation
Chrysler Corporation
Chrysler Sales Corporation
Continental Oil Company
Cooper Tire & Rubber Co.
Cristy Chemical Corp.
Crosley Motors, Inc.
Cushman Motor Works, Inc.
Delco-Remy Division,
General Motors Corporation
De Soto Motor Corporation
DeVilbiss Company, The
Diamond T Motor Car Co.
Dieterich Products Corp.
Dodge Car Division, Chrysler
Corporation
Dodge Truck Division, Chrysler
Corporation
Duo Coach Corporation
du Pont de Nemours &
Company, Incorporated, E. I.
Eaton Mfg. Co.
Edelmann & Co., E.
Edison, Inc., Thomas A.
Electric Auto-Lite Company, The
Electric Storage Battery Co., The
Enjay Company, Inc.
Ethyl Corporation
Federal-Mogul Service,
Division of Federal-Mogul Corp.
Firestone Tire & Rubber Co., The

K starts with gin the POST

AUTOMOBILE AND AUTOMOTIVE AFTERMARKET ADVERTISERS IN THE SATURDAY EVENING POST

Fisher Body Division,
General Motors Corporation
Fisk Tire Company, Division of
United States Rubber Company
Ford Motor Company
Fram Corporation
Freeman & Freeman, Inc.
Fruehauf Trailer Company
Fulton Company, The
Gabriel Company, The
General Electric Company
General Motors Corporation
General Tire & Rubber Co., The
Gloster Products, Inc.
GMC Truck & Coach Division,
General Motors Corporation
Goodrich Company, The B. F.
Goodyear Tire & Rubber Co., The
Great Northern
Research Laboratories, Inc.
Grizzly Manufacturing Company
Guide Lamp Division,
General Motors Corporation
Gulf Oil Corporation
Hammer Blow Tool Co.
H & H Products Mfg. Co.
Hastings Manufacturing Company
Heet Division, DeMert &
Dougherty, Inc.
Heil Co., The
Higgins, Incorporated
Hollingshead Corporation, R. M.
Hudson Motor Car Co.
Hull Mfg. Co.
Indian Motorcycle Co., Division of
Rogers Diesel and Aircraft Corp.
International Harvester Co.
International Mfg. Co.
International Parts Corporation
James Industries, Inc.
Kaiser-Frazer Corporation
Kelly-Springfield Tire Co., The
Kendall Refining Company
Lat-Stik Mfg. Co., The
Les Rubber & Tire Corporation
Lincoln Division, Ford Motor
Company
Lisle Corporation
Luboid Company
Lyon, Incorporated
Macmillan Petroleum Corporation
Mall Tool Company
McQuay-Norris Mfg. Co.
Mercury Division, Ford Motor
Company
Miller Rubber Co., Division of
The B. F. Goodrich Company
Minnesota Mining and Mfg. Co.
Monroe Auto Equipment Company
Moog Industries, Inc.
Motorola, Incorporated

"M" System Manufacturing Co.
Muskegon Piston Ring Co.
Nappanee Trailer Company
Nash Motors, Division of
Nash-Kelvinator Corporation
National Battery Corporation,
Gould Commercial Division
National Carbon Company, Inc.,
Unit of Union Carbide and
Carbon Corporation
New Departure Division,
General Motors Corporation
New York Lubricating Oil Co.
Noblitt-Sparks Industries, Inc.
Octa-Gane
Oldsmobile Division,
General Motors Corporation
Packard Motor Car Co.
Palace Corporation
Park Chemical Company
Parker Rust Proof Company
Peckat Manufacturing Co., Charles
Pennsylvania Grade Crude
Oil Association
Pennsylvania Refining Co.
Pennsylvania Rubber Company
Pennzoil Company, The
Perfect Circle Company, The
Petersen Mfg. Co.
Phile Corporation
Phillips Petroleum Company
Plastic Finish Company
Platt Trailer Co., Inc.
Plumb Tool Company
Plumb, Inc., Fayette R.
Plymouth Division, Chrysler
Corporation
Polaroid Corp.
Pontiac Motor Division,
General Motors Corporation
Porte Corp., The
Power Brake Parts Mfg. Co.
Power-Pak Products, Inc.
Publicker Industries, Inc.
Purolator Products, Inc.
Pyrene Manufacturing Company
Pyroil Company
Quaker State Oil Refining Corp.
Radiator Specialty Co.
Ramsey Corporation
Rankin Mfg. Co.
Raybestos Division
of Raybestos-Manhattan, Inc.
Ray-O-Vac Company
Reading Batteries, Inc.
Reo Motors, Inc.
Robbins Co., Jim
Royal Coach Co., The
Safticycles, Inc.
Schrader's Son, A. (Div. of
Scovill Manufacturing Co.)
Schult Corporation
Sealed Power Corporation
Seiberling Rubber Company
Servicycle Western Corporation
Shakeproof, Inc., Division of
Illinois Tool Works
Shaler Company, The
Shell Oil Company, Inc.
Simoniz Company, The
Sinclair Refining Company
Socony-Vacuum Oil Company, Inc.
South Wind Division,
Stewart-Warner Corporation
Springfield Tent & Awning Co.
Standard Oil Co. of California
Stewart-Warner Corporation
Studebaker Corporation, The
Texas Company, The
Tide Water Associated Oil Co.
Timken-Detroit Axle Company, The
Timken Roller Bearing Co., The
Trailer Coach Manufacturers Assn.
Trico Products Corporation
Tri-Pak Gun Kit, Inc.
Tripp Manufacturing Co.
Truckstell Co., The
Tucker Corporation
Turk Corp., C. K.
Union Oil Company of California
United Motors Service,
Div. of General Motors Corp.
United States Asbestos Division
of Raybestos-Manhattan, Inc.
United States Rubber Company
Upson Bros., Inc.
U. S. Industrial Chemicals, Inc.
Vagabond Coach Mfg. Co.
Vulcan Manufacturing Co., Inc.
Wagner Electric Corporation
Walker Manufacturing Company
of Wisconsin
Ward Products Corp.
Warner-Patterson Company
Wayne Pump Company, The
Weaver Manufacturing Company
White Motor Company, The
Whizzer Motor Company
Wilkening Manufacturing Co.
Willard Storage Battery Company
Willys-Overland Motors, Inc.
Winchester Repeating Arms Co.,
Division of Olin Industries, Inc.
Wind Turbine Co.
Wix Accessories Corp.
Wolf's Head Oil Refining Co., Inc.
Zecol, Inc.

Your best customers
know and prefer Post-
advertised products.

**The End in View
is Profits
for YOU**

America's Finest Seat Covers

Here is truly a new day in seat cover profits for the independent dealer. The Rankin plan cuts out all chain stores, mail order and cut price artists. It gives you the finest covers ever made in America . . . custom fitted . . . yet on a price basis comparable with most non-fitted covers. Here are gorgeous woven plastics of rich Lumite, in candy stripes, pastels, smart colors and designs . . . with extra tailoring, added refinements, yet POPULAR PRICED. Investigate these better profits now. Write for full literature TODAY.



RANKIN MANUFACTURING COMPANY
DEPT. R, CEDAR FALLS, IOWA

Greater Opportunities For Future Auto Salesmen

Automobile salesmen of the future will be better trained in their craft and, as a result, will have greater earnings opportunities than before the war.

Karl M. Greiner, vice-president and general sales manager of the Packard Motor Car Company, made this prediction at a June 24-25 conference attended by 100 Packard regional and zone officials and factory executives.

"Our newly-inaugurated retail manpower program embodies the suggestion that a salesman be paid a definite salary, sufficient to cover his minimum expenses, at regular intervals. He should also be paid a commission—a clear-cut amount on each sale," Greiner said.

He urged that consideration be given some long-range plan to assure the salesman an income over a period of years which "will spell security to him and his family." Greiner predicted a more permanent sales force will result for the dealer who so recompenses his men.

The field-factory conference also included talks by George T. Christopher, Packard president and general manager; C. E. Briggs, assistant general sales manager, and Hugh W. Hitchcock, director of advertising and public relations.



"I thought Jack would like this little job since he's a car salesman!"

John
BEAN

VISUALINER...

ENDS "CUT AND TRY" ALIGNING

With a John Bean Visualiner the mechanic and the customer see a continuous graphic picture of alignment conditions from start to perfect correction. The mechanic can SEE at all times exactly which way to make his correction and he knows just when to stop. There's no getting-out-from-under to set and read gauges.

Save time, improve service, increase profits—see your John Bean jobber about a Visualiner now.



JOHN BEAN

Division of FOOD MACHINERY CORPORATION

LANSING 4, MICHIGAN



WHEEL ALIGNERS AND CORRECTION TOOLS
WHEEL BALANCERS AND BALANCING
TOOLS . . . WEIGHTS . . . CAR WASHERS

More Mileage CONTINUED FROM PAGE 41

Legion and Union Labor publications.

Stauber believes that he can get specialized volume he wants by concentrating his advertising in those mediums that reach motorists interested in economy.

"My system of 'selling-up' the customer who comes in for minor repairs also helps to in-

crease volume in motor tuneup, generator and starter, ignition, carburetor, and fuel pump repairs. I and my mechanics ask every customer if he is losing oil and what his gasoline mileage is. The mileage is nearly always too low. We tell the customer what mileage he should be getting.

"With modern equipment in our shop, we have something definite to show the customer, and we like to display the equipment and to show the customer how it works."

In the shop Mr. Stauber or one of his mechanics can be seen checking a motor, with the car owner an interested observer. Few hesitate about spending five or six dollars for a tuneup if they can hope for more gas mileage.

Stauber's customers are urged to keep track of their tuneups, and to have one every 10,000 miles. Many regular customers come in at intervals to have their motors checked; to have a compression test run, to see if valves are all right, and to have bearings checked.

"Car owners like to patronize the repair specialist who has something specific to offer," Stauber said. "Any good repair garage can offer the customer more gas mileage, but I make my customers conscious of more mileage, and influence them to depend on us for the repairs that insure more efficient use of fuel."

Stauber's modern equipment includes a wheel balancer, a tuneup machine and equipment for testing and repairing carburetors and generators. The layout sums up to adequate but not elaborate equipment.

"We keep every piece of machinery, every hand tool, and all our mechanics busy," said Stauber.

CONTINUED ON PAGE 96

STORM-VULCAN, Inc.

2504 Commerce Street, Dallas, Texas
MINNEAPOLIS, MINNESOTA

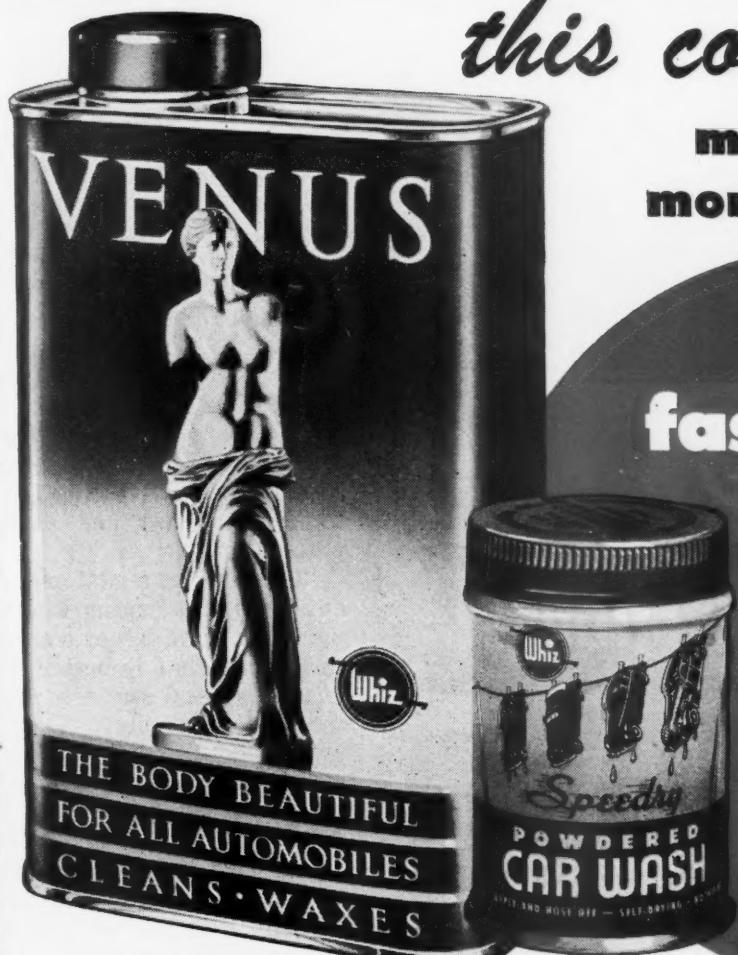
3-78

STORM-VULCAN, INC.
2504 Commerce Street, Dallas, Texas
Please send illustrated literature on the No. 65 Connecting Rod Grinding Machine.

Name _____
Address _____
City _____ State _____



"And here's a little item you pay extra for on a new car."



VENUS POLISH cleans
and waxes in one easy
operation

New, sudsy SPEEDRY powdered CAR
WASH does a better job faster. Self-
drying, eliminates chamoising.

this combination

means more
money for you!

TWO
fast-selling
WHIZ
favorites
for the price
of one!

It's the Whiz 60th Anniversary Special!

It means new business and profits for you . . . a big value for motorists!

When a motorist buys a pint of Venus Polish, you give him—at no extra cost—a can of Speedry. Here's a car beauty-treatment that can't be beat! This adds up to bigger volume and more money for you. Join the Whiz Profit Parade today! Ask your Whiz jobber for the Whiz 60th Anniversary Special that gives you 24 cans of Speedry—at no extra cost—with every 24 pints of Venus Polish you order. Colorful, eye-catching display easel and window poster packed in every case. *R. M. Hollingshead Corporation, General Offices: Camden, New Jersey. Canadian Offices: Toronto. Warehouses: Dallas, San Francisco, Chicago.*



PRODUCTS OF
Hollingshead
LEADER IN MAINTENANCE CHEMICALS

More Mileage CONTINUED FROM PAGE 94

ber. "Keeping them all profitably at work is the goal of our continuous sales program for more gas mileage through repairs."

Stauber is his own service manager, and he works along with his men. He greets the customers personally when they drive to the side entrance. And

few customers leave without being asked the question that is the foundation of Stauber's volume: "What's your gas mileage?"

After a customer receives a complete motor tuneup, he is encouraged to run a check on his gas mileage to convince himself that the work has shown good

results. Customers who do check are usually the ones who return every 10,000 miles for another complete tuneup.

"It's the repeat customers that hold volume where I want it," said Stauber. "That's why I keep the names of all regular customers. I don't want to lose customers. A customer that doesn't come back might be a dissatisfied one, and I'd like to know it, if I can."

"When I use my spare time in calling up old customers who have not been coming in, one of my reasons is to find out if any of them are displeased for any reason. Nothing builds good will so surely as convincing the customer that we are eager to please him."

"I seldom let a customer drive away without urging him to let me know if he is not completely satisfied. That is better than a guarantee, and seems to impress the customer more."

G.M. Australian Car To Be 18 HP Model

The new light car under development by General Motors Holdens Co., GM subsidiary in Australia, is reported to be an 18 horsepower model to be sold at between \$1800 and \$2000. Production is expected to begin in mid-1949 and to total about 20,000 a year at plants located in Victoria and South Australia.

Don't Neglect Tube Fittings

They Are a Part of the Vital Gas and Oil Lines—the Life Lines* of Cars

- KEEP THEM HANDY!
- KEEP THEM CLEAN!
- KEEP THEM SORTED!

This Imperial Fitting Stock enables you to handle fitting replacements on gas and oil lines in a hurry. Eliminates costly pick-ups and delays—builds customer satisfaction...and more profits for you.

Contains the most frequently needed fittings stocked in a sturdy 5-drawer steel cabinet with 100 compartments. Each compartment fully labeled to show illustration, catalog number, size—makes reordering easy. Order one of these convenient stocks today:

No. 430-FA has 104 Fittings.....	\$12.14
No. 430-PB has 172 Fittings.....	18.04
No. 430-FC has 218 Fittings.....	28.16

Imperial Wall Chart No. 10,148-E will aid you in selecting fittings and shut-off valves—gives convenient listing of catalog numbers, sizes and list prices. Ask for a copy.

See Your Jobber

THE IMPERIAL BRASS MFG. COMPANY
1217 West Harrison Street, Chicago 7, Illinois

IMPERIAL

Brass Fittings • Flexible Fuel Lines • Tube Working Tools • Battery Hydrometers
Barrel Faucets • Welding Equipment



Imperial has a New Merchandising Program that will help you MAKE LIFE LINES A PROFIT LINE. Folder 355 tells you all about it. Ask for a copy today!





CAN'T ROT!

**AC'S EXCLUSIVE GLASS CLOTH COLLECTOR
TUBE TRAP PREVENTS POLLUTION OF THE OIL STREAM**

Only AC gives you this powerful sales feature—the glass cloth Collector Tube Trap. It is not harmed by acids in the engine oil—it can't rot and thus allow pollution of the oil. And it filters the oil a second time, just as it enters the Collector Tube.

That's the kind of extra protection you find throughout AC "5-Star Quality" Oil Filters and Elements—better design—stronger construction—finer quality—10 powerful sales features in all.

Join the Big National Campaign

All dealers who have tied in with the AC "5-Star Quality" campaign are enjoying big sales increases. Ask your AC wholesaler what it means in extra profits for you. There's a "5-Star Quality" Oil Filter for nearly every make of engine—and a better Replacement Element for nearly every make of oil filter.



AC SPARK PLUG DIVISION

• **GENERAL MOTORS CORPORATION**

"I didn't say I was wrong."

"You might as well. The crate bounced back, didn't it?"

Pop stroked his chin thoughtfully. "You're like a boss I worked for when I first started in the business," he said. "He always used to say there was two ways of lookin' at a thing—his way and the wrong way."

"We'll see how wrong I am," said Larry. "Lemme go to work on them tires."

"Not so fast! I wanna know exactly what you done when you installed that new ring and pinion."

Larry smirked. "I guess you're gonna tell me all about the settin' marks on the pin-

ions," he said.

"So you noticed 'em" said Pop.

"I not only noticed 'em. I followed 'em right to the thousandths of an inch."

"What was the settin', do you remember?"

"There ain't no use tryin' to trip me up today. I'm hotter 'n a Brooklyn fan. The settin' was plus fifteen."

"So you moved the pinion away from the center line of the rear axle fifteen thousandths more than the nominal settin'?"

"Wrong again. The old settin' was twenty-one. So I took fifteen from twenty-one, and set the pinion six thousandths nearer the axle."

"You're a genius," said Pop. "I couldn't 've done better myself. But," he added with a sly grin, "how did you do the measurin'?"

Indignation reddened Larry's face. "How did I measure it?" he exploded. "Why with the pinion settin' gage, of course."

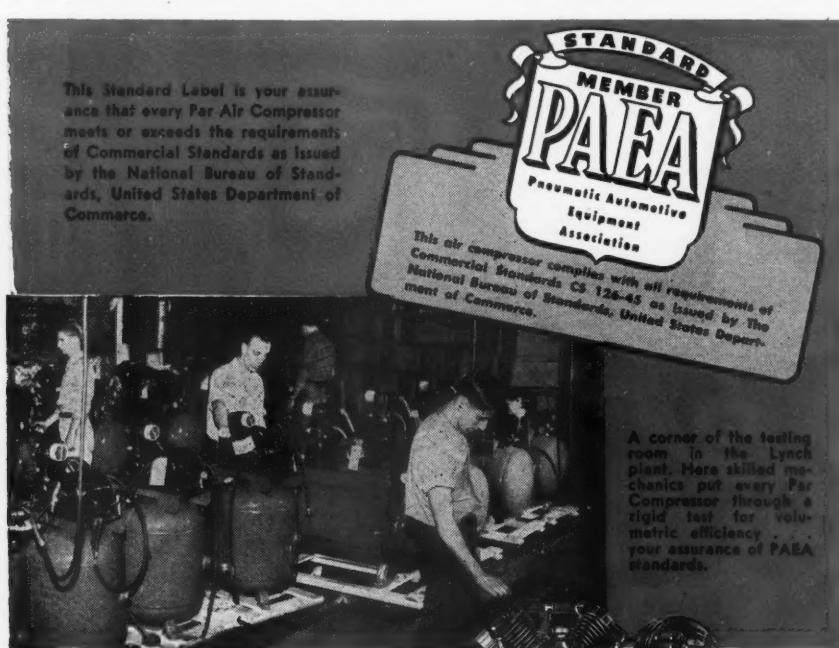
"That's what you measured it with. I mean just how did you go about the actual measurin'?"

"Are you serious?" asked Larry.

"You bet I am."

Larry studied Pop's set jaw an instant. "Well," he said grudgingly, "I set the pointer on the micrometer and adjusted it

CONTINUED ON PAGE 103



PAR Air Compressors

MEET OR EXCEED
PAEA STANDARDS

For years every Par Air Compressor leaving the Lynch factory has had to meet the rigid tests of our testing laboratory. It is part of our program to build greater efficiency, more dependable service into every Par Compressor. Today this fact is recognized by the PAEA label which is displayed on every Par unit . . . it is your assurance that Par meets or exceeds the requirements of Commercial Standards as issued by the National Bureau of Standards, United States Department of Commerce.

By Comparison—You'll Buy Par . . . engineered and manufactured especially for the automotive service field, in 16 models—8 horizontal, 8 vertical, from $\frac{1}{2}$ to $1\frac{1}{2}$ h.p. single stage units and $1\frac{1}{2}$ to 5 h.p. two stage units. There's a proper-size, proper-type Par unit to handle practically every "air-power" requirement in the automotive service field.

See your Par Jobber for details or write direct for Par Catalog No. 47.

By Comparison—You'll Buy PAR

— LYNCH CORPORATION —
Par Compressor Division TOLEDO 1, OHIO U.S.A.

"Ixney, wiseguy! That's my ol' mons'l!"



FACTORY-ENGINEERED

PONTIAC PARTS'

FOR INDEPENDENT REPAIRMEN

BETTER
6 WAYS

1—QUICK AVAILABILITY

Just phone and give your complete order. Your Pontiac dealer will assemble it fast and deliver it to you or have it ready for you to pick up. There's no need to maintain an inventory of Pontiac parts.

2—GENEROUS DISCOUNTS

Your Pontiac dealer offers you attractive net prices on Pontiac Factory-Engineered Parts. With Pontiac parts you can always make a fair profit for yourself at a fair price to your customer.

3—PRECISION FIT

Engineered especially for Pontiac—fit correctly and save installation time.

4—OWNER SATISFACTION

Most owners prefer Factory-Engineered Parts on their Pontiacs.

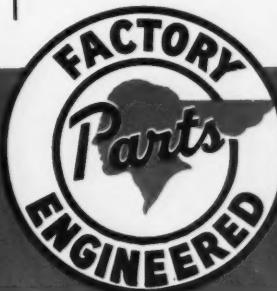
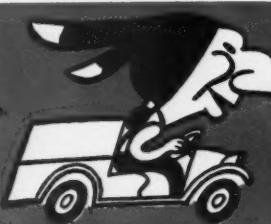
5—FINE PERFORMANCE

Pontiac-Engineered Parts last long and run well—with new car dependability.

6—TECHNICAL INFORMATION

Pontiac dealers will help you with free technical information on your Pontiac service jobs.

THERE'S A PONTIAC DEALER
NEAR YOU TO SERVE YOU
FAST!



Suskana* ... SARAN

... for auto seat coverings

SMART a wide range of bright and colorful patterns

DURABLE . . . SUSKANA Saran is strong, supple and will
not fray or scuff

WASHABLE . . . with soap and water or cleaning fluid

SUSKANA Saran . . . always looks bright and spic and span



SUSQUEHANNA MILLS, INC., 404 Fourth Ave., New York 16, N. Y.

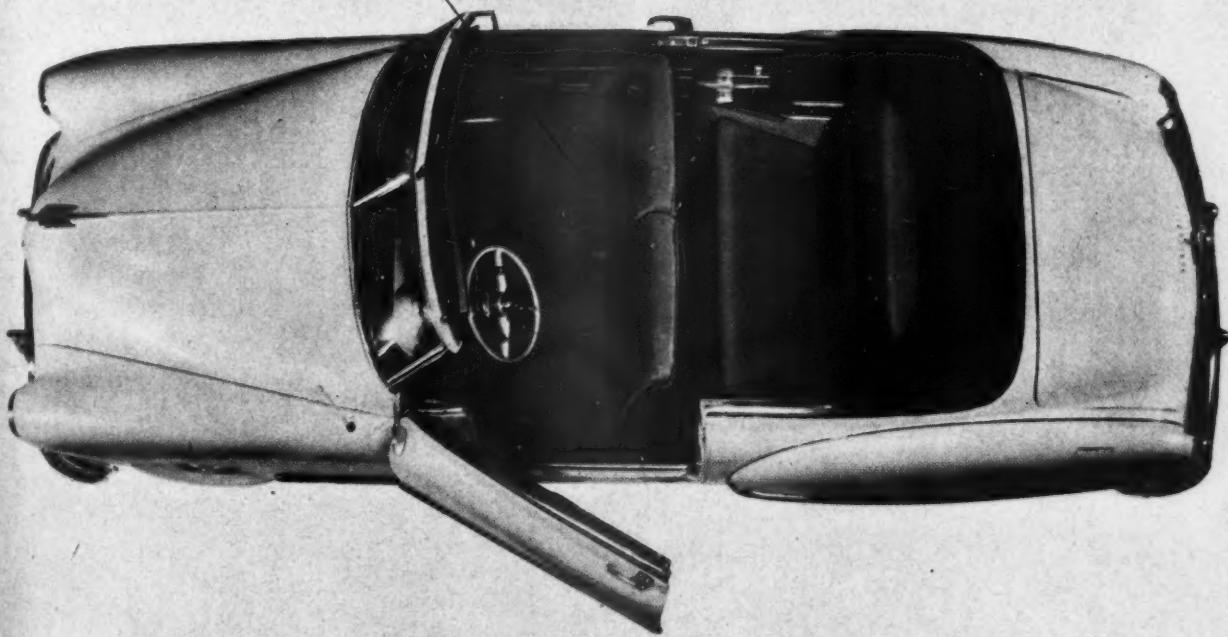
*SUSKANA fabrics for Auto Seat Covers,
Upholstery, Men's wear, Women's wear, Neckties



SARAN

SARAN

BY NATIONAL



distinctive! durable! — seat covers woven of SARAN!

They're fashions for beauty and long life—and they're delighting motorists everywhere.

Saran, the *basically different* textile material, weaves into these smart seat covers color and beauty that set new standards of durability. Fabrics of saran won't stretch or sag—they're resistant to dirt, stains, weather and constant wear. Increasing demand for these care-free seat covers of saran assure added profit and prestige for alert dealers.



Saran by National

ODENTON • MARYLAND

New York: Empire State Building; Los Angeles: Bankers Building



SARAN BY NATIONAL denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran and supplied to mills, weavers and other fabricators.

Now for the
Jack Pot!



MODERNIZE WITH



WHAT do you need most in the way of new equipment? What single item, or combination of items, would help you handle more repair jobs . . . faster . . . more profitably?

These aren't \$64 questions. Find the right answers . . . install the equipment . . . and watch your "intake" manifold. The Automotive Equipment Plan will help you get what you need with the least cash outlay and the most satisfactory results.

Inventory your equipment. Get in touch with your jobber today. Start building for better business.

THE BEST EQUIPPED SHOP
GETS THE PROFITABLE BUSINESS

BUY . . . AND FINANCE . . .
THROUGH YOUR JOBBER

ONE CONTRACT . . . ONE COST
. . . INSURANCE INCLUDED



If you don't know about A E P . . . ask your jobber.

COMMERCIAL CREDIT CORPORATION

A Subsidiary of Commercial Credit Company, Baltimore

MORE THAN 300 OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

Pop O'Neill CONTINUED FROM PAGE 98

till I moved the pinion in six thousandths."

"Which tooth of the pinion did you use?"

"What difference does that make?" scoffed Larry.

"It probably means we done a lousy job on Doctor Fay's car."

"I don't see—" began Larry.

"That's exactly what I'm talkin' about. You don't see half the things you oughta. That's why so many of your jobs come back."

"But—"

"Did Tommy help you with that job?"

Larry grasped at the straw. "Sure," he said eagerly. "As a matter of fact—"

"Don't try to tell me he's the one who loused it up. I only want him to hear what I'm gonna say." He called Tommy over.

"I was tryin' to find out why that new rear you two guys put in Doc Fay's car yesterday has still got a hum in it. Larry can't remember what tooth he measured the settin' from. You got any idea?"

Tommy scratched his head. "I didn't see any difference between them," he said.

"Well maybe there ain't actually," said Pop. "But you always gotta remember the face

of the pinion ain't ground, so it's likely to be a little higher one measure from the blank tooth so's—"

"Blank tooth?" said Larry. "What kinda pinions have you been workin' on?"

"I'm talkin' about Buicks," said Pop. "There's always a tooth between the one that has

the inspection mark and the one that has the settin'. This ain't got no etchin' on it."

"But," asked Tommy, "how do you know that one's right?"

"I don't have to," said Pop. "I turn the shaft till the blank tooth points up. I attach the gage and take a readin'. Then I take the gage off and turn the tooth down. I put the gage on again and take another readin'."

CONTINUED ON PAGE 104

Wayne HOISTS

FREE WHEEL OR
DRIVE-ON TYPE

MORE WORKING SPACE

WAYNE HOISTS are powerful, easily handled and convenient to use. They give free access to all underparts of the car. The floor space is clear, without depressions and easily cleaned. Wayne cylinders may be completely repacked in twenty minutes. Wayne's greater bearing surface means less power required . . . no binding. Write for bulletin describing these and many other important features.



for your protection

THE WAYNE PUMP COMPANY

FORT WAYNE 1, INDIANA

AIR COMPRESSORS

GASOLINE PUMPS • CAR WASHERS • AIR SCALES • HOSE REELS • LIFTS

"All this paper work is driving me nuts!"

Pop O'Neill CONTINUED FROM PAGE 103

Then I add the two readin's and divide by two. That gives me the right settin'."

"Oh I see," said Tommy. "If there's any difference between the two points on the face, you just halve it."

"Exactly," said Pop. "And, if I don't miss my guess, the reason Doc still has the hum is be-

cause somebody around here was too busy to do the job right."

"I'm always somethin' around this shop," said Larry, "when you're tryin' to hang somethin' on me. But you ain't done it yet. You're only doin' some high-powered guessin'?"

Pop grinned. "Okay," he said. "I'm guessin'. But you pull that



You can count on SOL-SPEEDI-DRI

American industry has learned that it can depend on the uniformly high quality of SOL-SPEEDI-DRI — the field's original and foremost absorbent for all liquids. This quality is guarded carefully from mine to user by the most modern methods and equipment. The raw material for SOL-SPEEDI-DRI is obtained by selective mining, and is transformed, under constant laboratory control, into the finished product. There's no waste in SOL-SPEEDI-DRI. Packed

in special moisture-proof bags, every grain of SOL-SPEEDI-DRI comes to you at the peak of efficiency to give you the most for your money.

SOL-SPEEDI-DRI has been tested and proved by American industry. The result? More SOL-SPEEDI-DRI is used by the nation's shops and plants than any other material of similar nature! That's ample proof of SOL-SPEEDI-DRI's out-in-front performance. Remember, if SOL-SPEEDI-DRI is on the bag, quality is in the bag!

WHEN YOU BUY, BE SURE IT'S SOL-SPEEDI-DRI

**Safety and
Maintenance Co., Inc.**
No. 1 Wall Street
New York 5, N. Y.

Warehouse Stocks Maintained
in Principal Cities of the
United States and Canada.



rear and measure the settin' the way I just told you. If you don't lick the hum after you reset the pinion, I'll buy the cokes."

As Pop went back to the office, Larry scowled after him. "Cokes, he says," he exclaimed. Then he shrugged. "Well, for him, I guess that's really goin' overboard. Come on. Let's rip out that rear again."

A half hour later Pop sauntered out into the shop again. "What's the matter boys?" he asked. "Ain't nobody thirsty today?"

Larry was glum. "We'll buy our own cokes," he said.

"So the settin' was wrong, was it?"

"You lucked through again," said Larry.

Pop chuckled. "It just goes to show," he said, "that diagnosin' car troubles ain't no job for a guy with a brain that takes cat naps. Maybe I ought to give you a little homily on it."

"You mean hominy," said Larry.

"I'm talkin' about preachin'. Hominy's somethin' you eat for breakfast. It's a kind of corn."

Larry retreated to what he considered a safe distance and grinned. "Well Pop," he said, "your preachin' ain't exactly oats."



"We teach only ballroom dancing here, but I can offer you a job as an instructress."

off the griddle

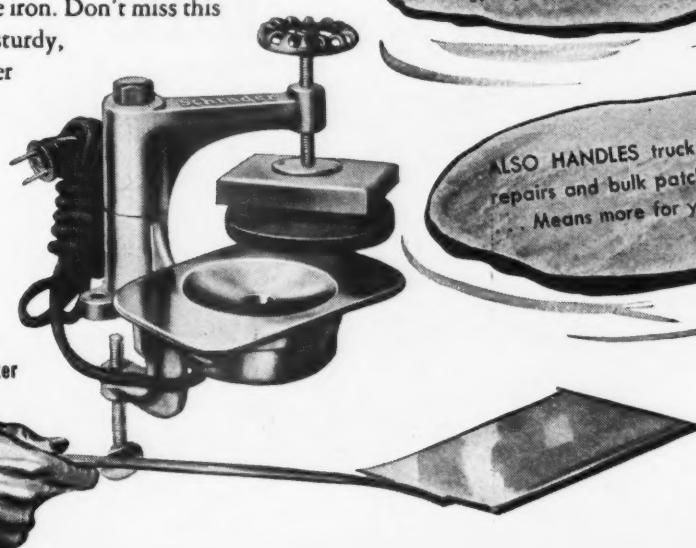
at new LOW price!

THE ELECTRIC VULCANIZER THAT TREATS BUTYL RIGHT!

Don't give "guess-work" repairs to Butyl tubes. Here's the Electric Vulcanizer that takes the guessing out of Butyl repairs. Your valves and patches stay put . . . wear like iron. Don't miss this chance to add this sturdy, long-lived Vulcanizer to your equipment TODAY!

—AC or DC current, 100-125 Volts.
Extra flat plate for regular repairs.

Schrader #8601 Electric
Valve and Tube Vulcanizer



Dealer Price (U.S.A.) Was \$24.50
NOW \$17.00

STEADY, CURING HEAT — Famous
Edison Thermostat gives steady, even
curing heat AUTOMATICALLY.

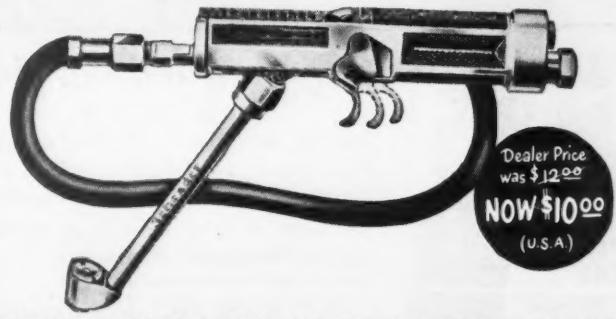
ALSO HANDLES truck valves, tube
repairs and bulk patching materials
Means more for you.

DON'T MISS THESE AMAZING VALUES:

SAVE TIME — SPEED SERVICE

SCHRADER #2030 CHUCK GAUGE—The In-the-hose gauging, inflating, deflating tire service instrument — Dual Foot for dual wheel trucks and buses . . . 20 to 130 lbs. or

SCHRADER #1020 CHUCK GAUGE—standard chuck gauge. For passenger tires and single wheel trucks. In single lb. calibrations from 10 to 120 lbs.



Dealer Price
was \$12.00
NOW \$10.00
(U.S.A.)

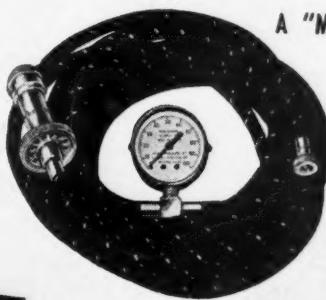
A "MUST" FOR YOUR ROADSIDE REPAIRS AND EVERY CUSTOMER'S VEHICLE

SCHRADER #8888G SPARK PLUG TIRE PUMP with
one *Adapter—Gauge tells when
desired pressure is reached. Complete
with 16-foot hose.

*specify your spark plug thread size.

Retail Price
was \$8.50
NOW \$5.00
(U.S.A.)

(Also available in complete kits with all five adapter sizes and in special outfits for farm air service.)



LET YOUR
ENGINE DO
THE JOB!

Schrader
PRODUCTS
CONTROL THE AIR

USE the BEST and stock the BEST—**SCHRADER!** Your Customers deserve it!
ORDER FROM YOUR REGULAR SUPPLIER TODAY!

A. SCHRADER'S SON, Division of Scovill Manufacturing Company, Incorporated, BROOKLYN 17, N.Y.
World's Largest Manufacturer of the COMPLETE LINE of Tire Valves, Gauges and Accessories

SAE Studies "Stop" and "Turn" Signals for Trucks

The use of more effective "stop" and "turn" signal lights for the nation's nearly 7,000,000 trucks is expected to result from studies made recently by the Society of Automotive Engineers at General Electric's Nela Park, headquarters of the company's Lamp Department.

Twenty-odd such lights, of

various sizes, colors, and intensities, were viewed by a group of 40 automotive experts at distances up to 500 feet, under both day and night conditions. The group was composed of members of the lighting committee of the S.A.E., and representatives of automobile manufacturers and various state highway safety groups.

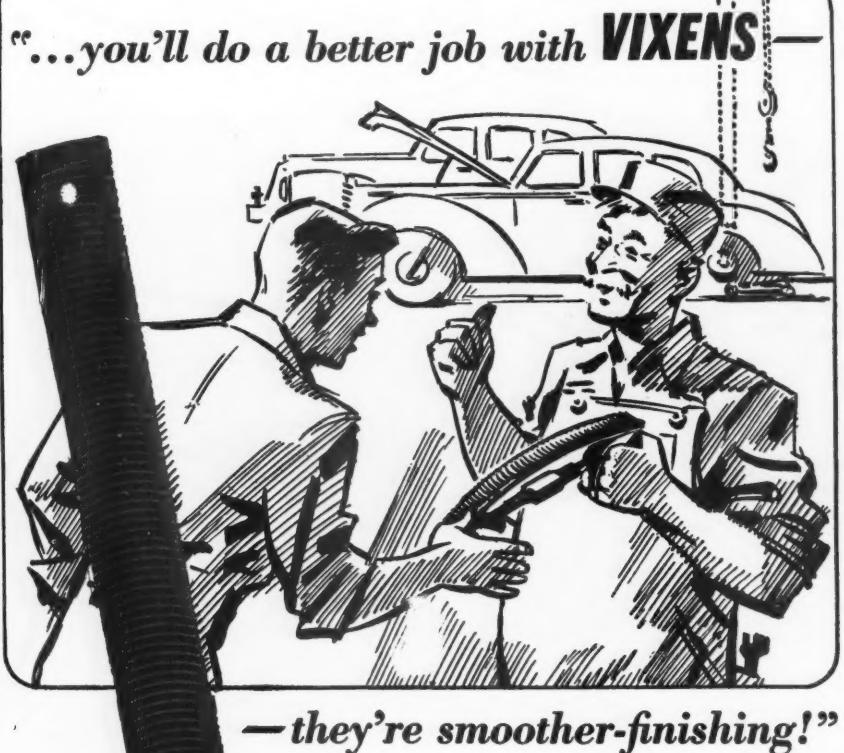
Val J. Roper, G-E illuminating engineer, and host to the dele-

gation, said that while final specifications were not adopted at the meeting, it was determined that the lights should be red or amber to the rear, but preferably red, amber or white to the front, that they should be at least four inches in diameter, and that they need not bear printed instructions or arrows.

Roper pointed out that the S.A.E. became interested in promoting adequate signal light standards because of comments made by some safety authorities to the effect that present truck signals in many cases are inadequate and truck drivers' hand signals are ineffectual, especially where truck-trailer combinations are concerned.

One of the chief problems was that of selecting signals having sufficient intensity to be effective in the sunlight, yet not so bright as to be blinding at night, according to Roper.

To assist the auto lighting experts in their studies, G-E engineers devised laboratory test equipment in the form of red and amber lights which were adjustable in size from two to eight inches in diameter, and capable of intensities of from 5 to 500 candlepower.



ONLY HELLER MAKES VIXENS

Vixen Files have been serving auto body and fender shops for years. Widely imitated, they have never been equalled. Specify genuine Vixens —made only by Heller—when you order from your jobber.

"It's this way. Only a good filing job gives body and fender work the slick, new-car look customers want . . . the kind you get with genuine Flexible Vixen Files."

"Look at those deep, sharp teeth. They're spaced right, with plenty of clearance. Chips don't clog the teeth and leave scratches. And a Vixen's curved teeth cut clean and true, whether straight ahead or at an angle. It means a smoother finish . . . a Vixen finish!"

HELLER BROTHERS COMPANY
Newark, N.J. Newcomerstown, Ohio

America's Oldest File Manufacturers

**GENUINE
HELLER**

VIXEN

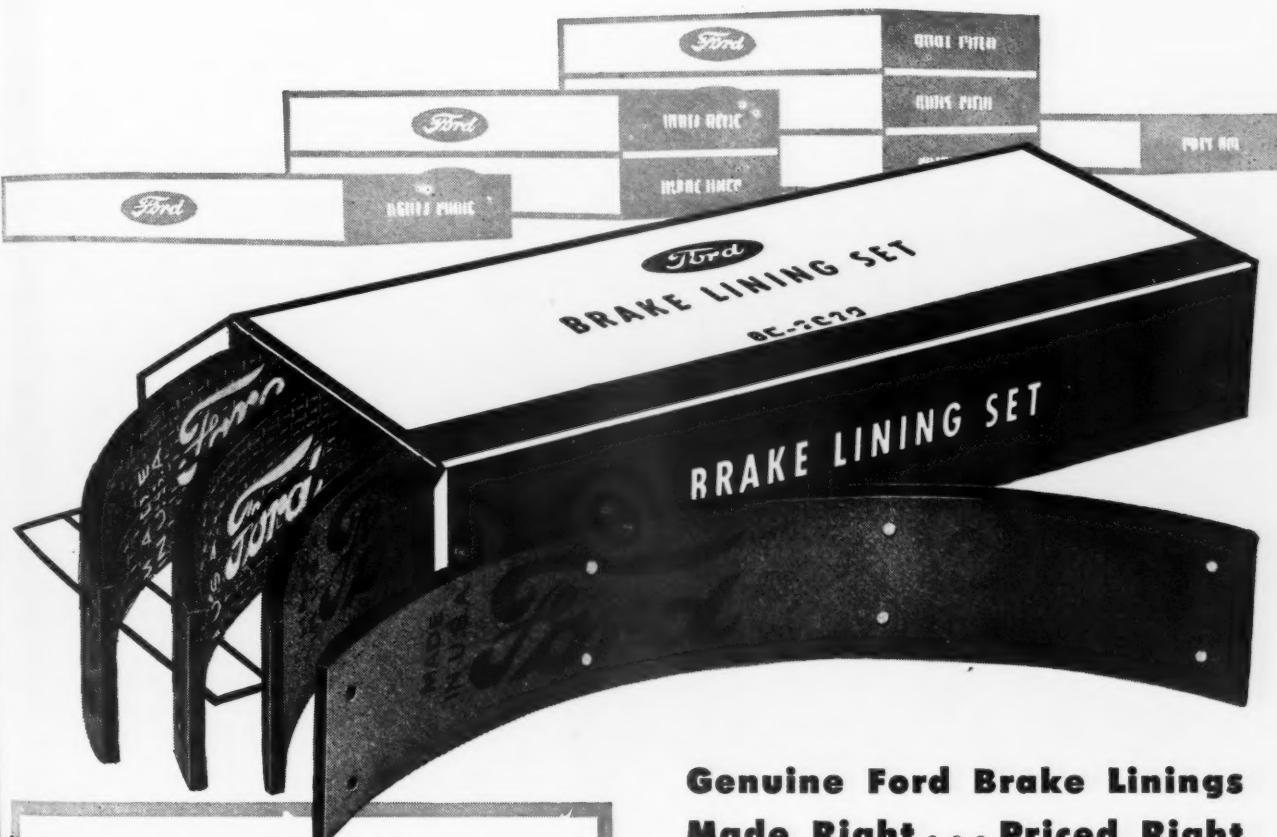
MILLED
CURVED-TOOTH
FILES



Build Your Ford Service Business

with Genuine
FORD Parts

Keep your Ford service business growing by always using Genuine Ford Parts on every repair job. Identical twins to the parts built into Ford cars and trucks at the factory, they're made right to fit right and last longer. Your Ford Dealer or Ford Parts Distributor can give fast delivery—give him a call today!



Independent Garages . . .

the famous Genuine Ford Parts Sign tells your customers you stock Genuine Ford Parts, helps to build more new business. That's because Ford owners know Genuine Ford Parts are right for their Fords. Let your Ford Dealer or Distributor show you how you can qualify to put this great business builder to work for you.

Genuine Ford Brake Linings Made Right . . . Priced Right

You can't tell whether brake linings are good or bad just by looking at them. That's why every piece of Genuine Ford Brake Lining has the Ford trade mark stamped on it. It's proof that every piece meets rigid Ford specifications for such important brake lining characteristics as per cent of asbestos and other materials . . . weight . . . density . . . hardness . . . uniformity . . . frictional performance—all for a better brake lining job, more safety, more satisfied customers!

Genuine FORD Parts
Right for FORDS!

FORD MOTOR COMPANY

Merit Awards CONTINUED FROM PAGE 51

lar volume of sales: up to \$100,000; \$100,000 to \$250,000; \$250,000 to \$500,000; over \$500,000. This will enable all wholesalers to compete on an equal basis. Appropriate plaques for first, second and third place in each class will be awarded. Awards will be announced each year at the Automotive Service

Industries Show.

Awards will be made with emphasis on the overall efficiency of the program, not on any single phase or type of advertising. The program may be made up of whatever types of advertising the wholesaler is doing, and entries may include such varied advertising methods as direct

mail, newspaper, radio, billboard, clinics, shows, special events or other methods or combinations of methods. Winning entries submitted to the AAC's secretary before the deadline—November 1st—will be exhibited at the A.S.I. Show.

Entry blanks for the 1948 Contest will be available after August 1 from the Automotive Advertisers Council, M.E.W.A. or N.S.P.A.

The Automotive Advertisers Council is composed of advertising and sales executives of over 50 leading manufacturers of automotive parts, tools, equipment, accessories and chemicals. This organization has been active for some time in encouraging independent, planned advertising by wholesalers. For example, several years ago, the Council prepared and published an "Advertising Handbook for Automotive Distributors." This was distributed by both N.S.P.A. and M.E.W.A. to its members and copies were also supplied to wholesalers by Council members.

Walter Kirkpatrick, advertising manager, Wilkening Mfg. Co., is president of the Council, and Duane Jones, advertising manager, United Motors Service, is vice president.

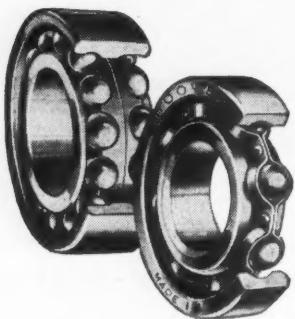
Following are the official rules of the contest as released by the

CONTINUED ON PAGE 112

HONED RACEWAYS

"ring the bell"

with 30% longer life
30% greater load capacity



There are few people who can ring the bell at the country fair. This is a task that takes more than strength . . . it takes smoothness, precision and timing.

There is only one ball bearing that has honed raceways . . . the Hoover Ball Bearing. The extra precision and smoothness that result from honing increase the life span of Hoover Ball Bearings. Due to honing, Hoover Ball Bearings have closer race curvatures . . . greater area of ball-supporting contact . . . and 30% more load carrying capacity. You get these advantages plus unbelievable quietness with Hoover Honed Raceways.

THE ARISTOCRAT
OF BEARINGS

Hoover

America's only Ball Bearing
with HONED RACEWAYS

'HOOVER BALL AND BEARING CO. ANN ARBOR, MICH.

When writing to advertisers please mention Motor Age

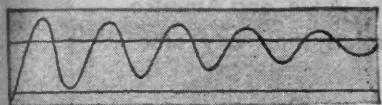


"Miss Latour couldn't make it, Gents—I didn't get her car fixed."

Dealers:
This message is appearing in current
Fleet Publications to produce profit for you.

When a Man is "All In"

*He Can't Go
All Out for You*



STANDARD TRUCK CUSHIONS — Poor take-up of shock followed by rough rebounds. Drivers take up to 50,000 shocks like this a day.



BOSTROM HYDRAULIC SEAT — Soaks up the initial shock and levels out—like a passenger car ride.



T HESE ENGINEERING RIDE-GRAPHS

tell you better than words why . . . Safety slips! Schedules lag!

Equipment and cargoes take abuse!

Yes . . . Bostrom hydraulic seats more than pay for themselves by reducing driver fatigue. You get additional savings by cutting seat repair bills. Ask your dealer for a demonstration. For free folder,

"12 Eye Openers Concerning Truck Seats" write:

BOSTROM MFG. COMPANY
133 West Oregon Street • Milwaukee 4, Wisconsin



*There is NO Substitute
for a Bostrom Ride!*

BOSTROM

Bostrom Hydraulic Seats
now standard or optional equipment on the following
trucks: GMC, Diamond T, Federal, Hendrickson, Peterbuilt
Walter, Ward La France, FWD, Dart, Oshkosh, and Cole-
man. Specify Bostrom Model 47 Seats on your new trucks.



Today!



Chevrolet first in production, first in sales,

first in registrations! That's the story for 1948, for both cars and trucks. America buys on value, and America continues to buy more Chevrolets than any other make of car or truck.

**For the
last complete
production year**



Chevrolet first in production, first in sales,

first in registrations! It was as true last year as in many a preceding year. Chevrolet built more of the cars and trucks that more people want . . . to maintain the leadership that the Chevrolet emblem stands for.

**For the
total period
from 1931
to date**



Chevrolet first in production, first in sales,

first in registrations! The record for the total 17-year period shows what the buying public knows: Chevrolet is America's best motor car value . . . year in, year out. The test of time brings continuing proof of Chevrolet leadership . . . continuing assurance to Chevrolet dealers that CHEVROLET—and only Chevrolet—is FIRST.

of public preference...

CHEVROLET

and only Chevrolet

IS FIRST

Throughout the modern automotive era . . . for the total period from 1931 to date . . . Chevrolet has been *first* with the buying public. More people have bought Chevrolet. More people have owned Chevrolet. More people have driven Chevrolet. This is the true indication of Chevrolet leader-

ship in value . . . and it is backed up by the fact that Chevrolet resale value is consistently higher than that of other cars in the low priced field. By the yardstick of public preference . . . based on new car sales and used car sales . . . Chevrolet and *only* Chevrolet is first.

CHEVROLET MOTOR DIVISION, GENERAL MOTORS CORPORATION, DETROIT 2, MICHIGAN

Going Forward Together  *You and Chevrolet* 

Started 3 Crosley Car dealerships, built 3 solid successes

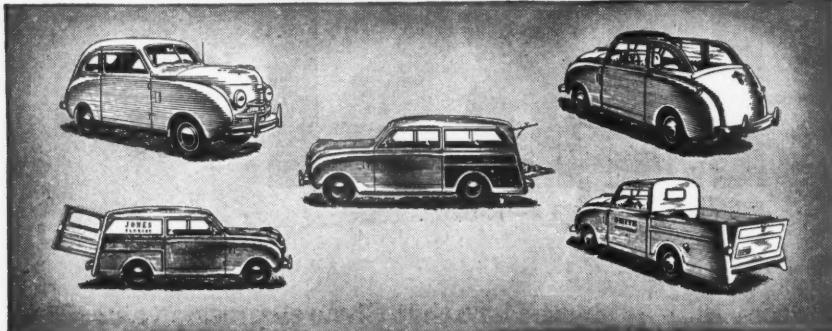
Any market is a ready market for the Crosley car. Look at the experience of R. E. Thompson. In 1946, he wrote personally to Powel Crosley, Jr., and received his franchise. His first dealership was at Middletown, Ohio. Within a year, he sold out at a profit and opened a larger Crosley dealership at Dayton, Ohio. He built the business on a sound basis, again sold at a profit, and returned to his native Kansas. Today his Thompson Motor Sales, handling Crosley Cars exclusively in Kansas City, Mo., employs 54 people and he has opened a branch at Kansas City, Kansas. Meanwhile, both Middletown and Dayton, Ohio, continue as successful Crosley dealerships.



R. E. THOMPSON



THOMPSON MOTOR SALES, KANSAS CITY, MO., NOW EMPLOYS 54, HAS ADDED A BRANCH



"I am expanding the dealer organization"

"With Crosley Car production stepping up, there are more opportunities for new Crosley Dealers. Now, 40,000 Crosley Cars are on the road. There will be thousands more, with a dealer profit on every one. Look around. If there is no Crosley dealer in your community, write me personally."

CROSLEY
a FINE CAR

CROSLEY MOTORS, INC., 1110-P ALFRED STREET, CINCINNATI 14, OHIO



Powel Crosley Jr.

President, Crosley Motors, Inc.

Merit Awards To Automotive Wholesalers CONTINUED FROM PAGE 108

Automotive Advertisers Council:

1. Any recognized automotive wholesaler who does 75 per cent or more of his automotive volume at wholesale levels may enter his own local advertising program into the competition.

2. Wholesalers entering the competition will be divided into the following volume groups: up to \$100,000; \$100,000 to \$250,000; \$250,000 to \$500,000; \$500,000 and over. Each wholesaler's entry will be judged in competition with advertising programs of other wholesalers in the same volume group.

3. There will be three awards within each group. First, second and third place.

4. Awards will be made on the basis of the overall excellence and consistency of the program—not on any single phase or type of advertising.

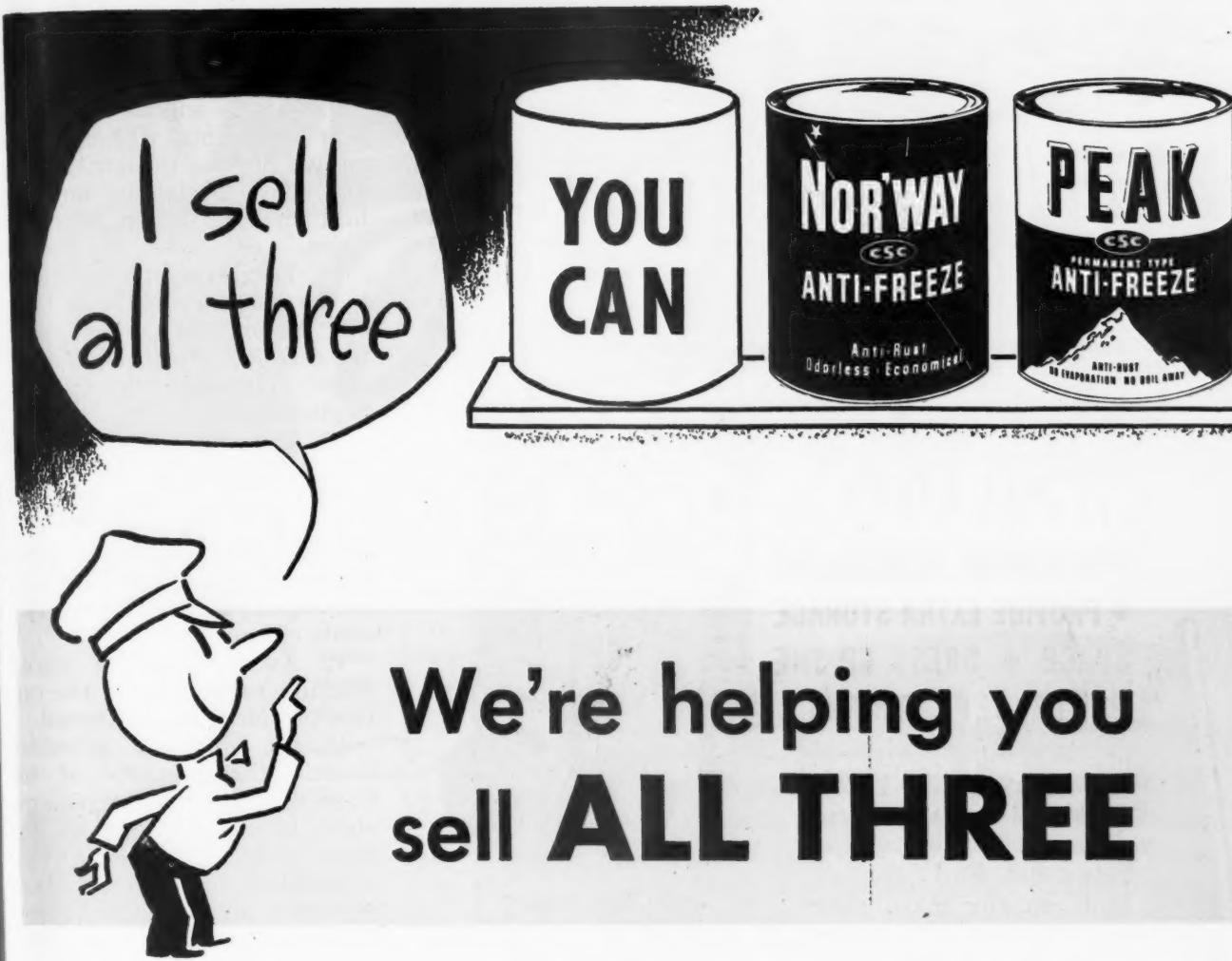
5. Advertising programs must be submitted in some organized manner such as a scrap book or portfolio. This should be accompanied by one of the official entry blanks on which there should be filled in a brief explanation of the advertising objectives and enough details to prove

CONTINUED ON PAGE 114



"She says she likes good clean sports. She ought to know—she's cleaned enough of them!"

Don't forget any of these profit-making cans



We're helping you sell ALL THREE

We're not ashamed to admit we're hoping to win your friendship by plugging for you in our national advertising campaign on NOR'WAY* ANTI-FREEZE and PEAK* ANTI-FREEZE.

We're selling the public on your YOU-CAN—on your ability to take expert care of their cooling systems.

We never ask folks to pour a can of one of our products into their radiators. We always say "Get a good service man to prepare your car for winter, etc."

We want to help you get up to FOUR TIMES the profit that you can make merely by selling cooling system products like groceries.

*Reg. U. S. Pat. Off.

You can cash in on sales of fan belts, hose connections and clamps, gaskets, etc., and by charging for flushing with NOR'WAY CLEANER and for installing NOR'WAY QUICK FLUSH and NOR'WAY STOP LEAK, on top of your normal profits on NOR'WAY ANTI-FREEZE and PEAK ANTI-FREEZE.

Here are the publications we are using to sell your YOU-CAN as well as cans of our products.

SATURDAY EVENING POST
COLLIER'S
COUNTRY GENTLEMAN
PATHFINDER

TIME
NEWSWEEK
BUSINESS WEEK
CAPPER'S FARMER

SPECIALTIES DIVISION

COMMERCIAL SOLVENTS CORPORATION

17 East 42nd Street, New York 17, N. Y.



When writing to advertisers please mention Motor Age

JULY, 1948

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Merit Awards CONTINUED FROM PAGE 112

vide the judges with sound foundation material. Entry forms will be available from the Automotive Advertisers Council, N.S.P.A. or M.E.W.A. after August 1. (Address C. H. LeFecre, Secretary, Automotive Advertisers Council, % Sealed Power Corp., 500 Sanford St., Muskegon 61, Mich., or headquarters of associations.)

6. In clinics, dealer meetings, shows, state fair participation or similar events are part of the wholesaler's program, adequate information should be included.

7. The committee of judges shall be the executive committee of the Automotive Advertisers Council, plus one representative

from each of the associations having wholesale members, M.E.W.A. and N.S.P.A., and Kay Kneisly, general manager of JOBBER TOPICS.

8. Judging will be made prior to the Automotive Service Industries Show.

9. Awards will be made each year coincidental with the Automotive Service Industries Show and the Associations meetings held in conjunction with the Show.

10. Entries must be submitted to the Secretary of the Automotive Advertisers Council before the deadline established for each year. (Deadline this year is September 1.)

11. The award shall be an appropriate plaque imprinted with winner's name, contest place and date. First place will be indicated by a blue ribbon attached to the plaque; second place by a red ribbon; and third place by a white ribbon.

12. Awards will be made officially each year by the current president of the Council.

13. All programs submitted become the property of the Council, which reserves the right to exhibit them at the Show or to use them as Clinic material or basic data for any further publications or pamphlets it might choose to issue for the basic improvement of wholesalers' advertising programs.

NEW HOPE BIN END DISPLAYS -

ALL STEEL

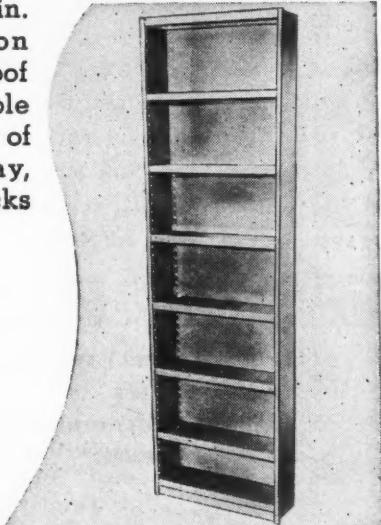
- SELL MORE ACCESSORIES
- PROVIDE EXTRA STORAGE SPACE • DRESS UP THE PARTS DEPARTMENT

• Display and sell more packaged items, accessories, etc. with this steel Hope Bin End Display. Bolts on any make parts bin. Size: 7-1/2" deep, 84" high, 24" wide. Eight shelves furnished per bin. Shelves adjustable on 1-1/2" centers. Dust-proof closed-in base. Available in combination of any of following colors: gray, green, buff, (white backs if desired).

\$33.33

FREIGHT PREPAID
(Built up and crated)

IMMEDIATE
DELIVERY



HOPE
METAL PRODUCTS, INC.
1507 ROCKWELL AVE.
CLEVELAND 14, OHIO



"Okay, you heard a mouse squeak—but I'm not getting up to oil it!"





BLUE CROWN

Does it Again

Scores Sweeping
DOUBLE VICTORY
at Indianapolis
500-mile Classic

Greatest spark plug
made. Not a single miss
the entire 500-mile
grind!

For the second consecutive
year Blue Crown Spark Plug Specials
finish in 1-2 order! This over-
whelming victory attests to
the remarkable perform-
ance and dependability of
world-famous Blue Crown
Spark Plugs . . . The
Choice of
the Experts.

SECOND BILL HOLLAND

In 1947—and again in 1948
Car: Blue Crown Spark
Plug Special
Speed: 119.147 M.P.H.

THE WINNER MAURI ROSE

In 1947—and again in 1948
Car: Blue Crown Spark
Plug Special
Speed: 119.813 M.P.H.
(A new Speedway
Record)

Thanks to Blue Crown
Spark Plugs for a
terrific performance. I
wouldn't drive without
'em!



DOMESTIC SALES
BLUE CROWN SPARK PLUG CO.
a DIVISION of MOTOR MASTER PRODUCTS CORP.
1800 WINNEMAC AVENUE, CHICAGO 40, ILLINOIS

EXPORT SALES
Borg-Warner International Corp.
CHICAGO 4, ILLINOIS U.S.A.
Cable Address "BORINTCO"

Overhead CONTINUED FROM PAGE 53

the overhead charged will be at variance with the anticipated result, consequently, those using this formula must watch sales volume month-to-month and try to keep it up to prior-period sales. If management can increase its volume, it need not worry because this will mean more profit. If volume is less

than in a prior period, management may experience a loss, even though the right overhead ratio revealed by the books is used in the calculation.

The mark-up on cost formula

Using this method, the estimator uses the cost of labor and materials as the basis of calculation and adds a certain percent-

age for overhead, the ratio taken from the book figures. If labor and materials total \$12,000 and overhead is \$6,000 for a prior period, the ratio of overhead to labor and materials cost is 50 per cent. So, the estimator adds 50 per cent to this prime cost for overhead on all repair jobs, to wit:

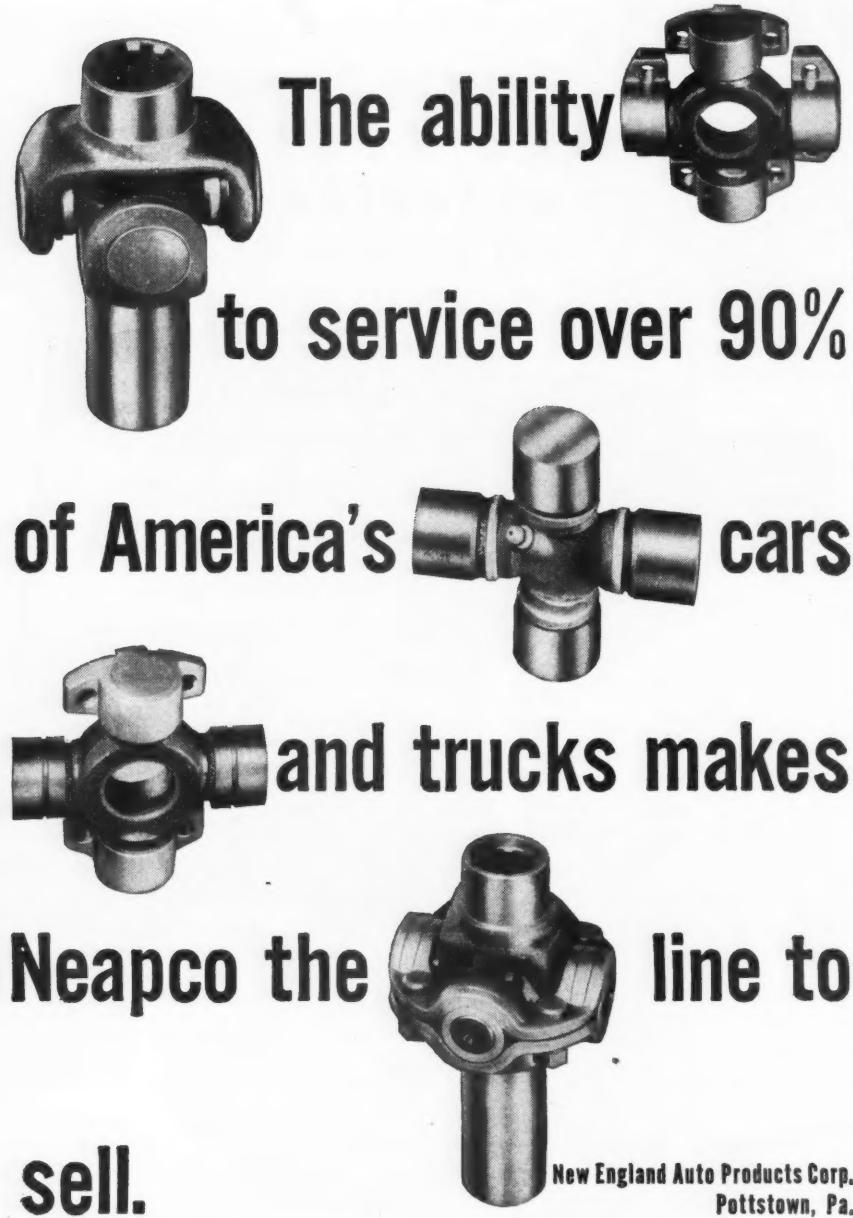
Labor and materials—	
(prime cost)	\$120
Overhead—(50% of	
prime cost)	60

Over-all cost to which profit is added \$180

This formula provides a means of charging a fair proportion of overhead to each job estimated only as long as the cost of labor and materials remains the same as it was in the prior period. If this cost goes up or down, the overhead figured on estimates will go up or down, although the actual outlay for overhead expense is not influenced by the fluctuation in labor and materials cost. While the cost of labor and materials is on the upgrade, the estimator using the foregoing formula need not worry unless it drives business to a competitor because his job prices are too high.

But, should prices recede, this formula will work to his disadvantage, so, he should be on

CONTINUED ON PAGE 118

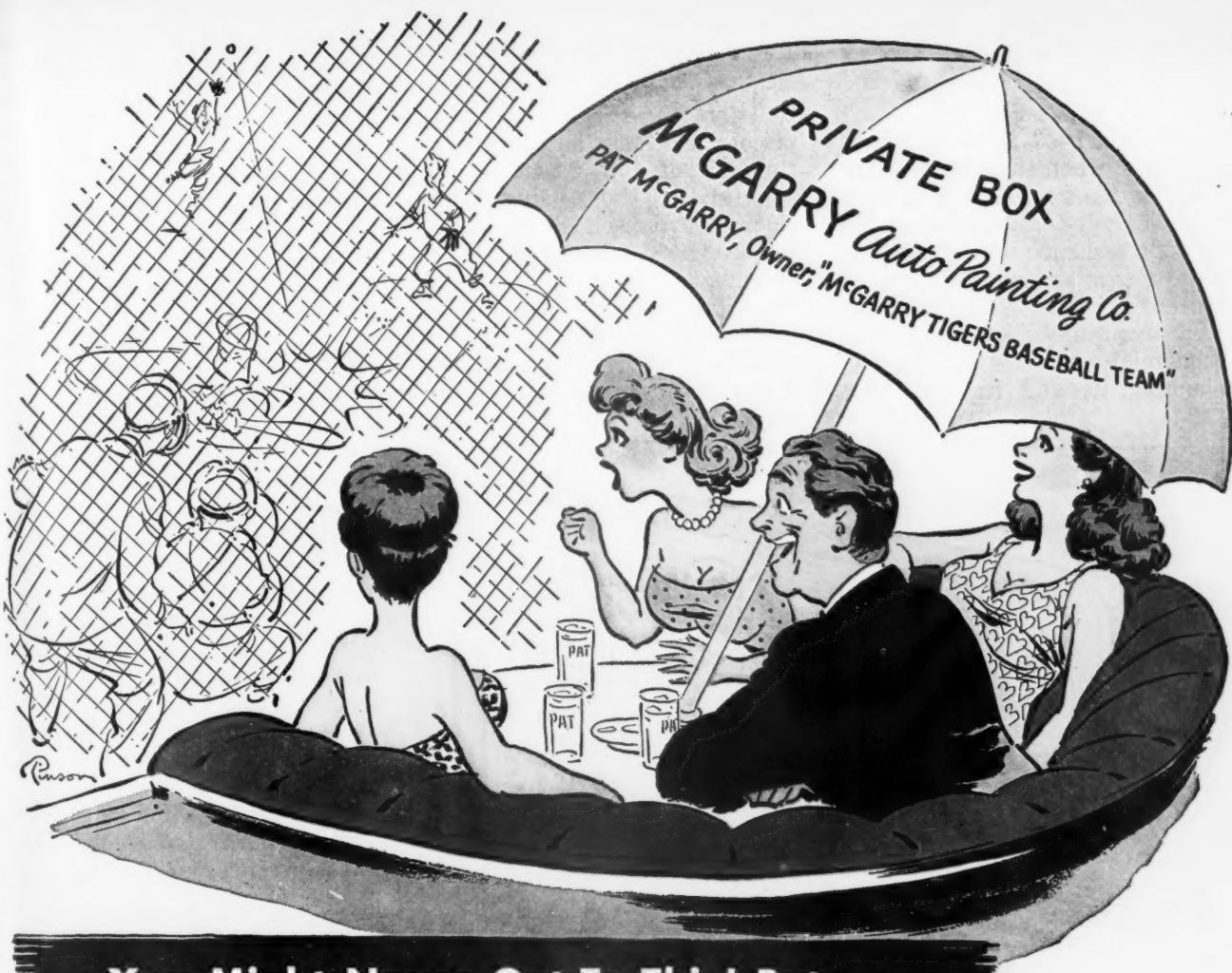


New England Auto Products Corp.
Pottstown, Pa.

**AMERICA'S MOST COMPLETE
INDEPENDENT LINE**
of Universal Joints and Parts



"Could I use the convertible carpet tonight, Daddy?"



You Might Never Get To This! But . . .

... YOU CAN MAKE MORE MONEY

Painting the M-S Way

Eight Quick Reasons to Switch to Martin-Senour

- 1 Higher painting profits
- 2 Exact color match to car-maker's specifications
- 3 Top quality, top durability, top beauty
- 4 No time wasted mixing or matching
- 5 Patented pour-top can prevents waste
- 6 No come-backs, no headaches.
- 7 Easier to handle... jobs out on time
- 8 Available everywhere... call your N.A. P.A. jobber



Maybe our cartoonist *did* exaggerate a bit, but you'll react that way, too, when you learn about the profits made on Martin-Senour's ready-mixed automotive finishes. You won't become a tycoon overnight, but you *will* have more time and money to enjoy the things you like. You paint more cars in less time and cut labor costs on every job. Every M-S finish is factory-matched to the car maker's specifications. No more time wasted mixing colors. No more "comebacks", either, because it's *right* the first time. Just check the color, make and model in your handy M-S catalogue, then phone your nearby N.A.P.A. Jobber. It's quick, it's easy and it's always *right*.

MARTIN-SENOUR

2520 Quarry Street, Chicago 8, Illinois

Overhead CONTINUED FROM PAGE 116

guard. At best, this formula is safe only when the cost of labor and materials is fairly well fixed over a long-term period. We haven't had such a condition for many years and may not experience it for many years to come. Cost accountants, because of the economic instability that is plaguing us and the resulting

price variations, advise discontinuance of this formula. We suggest that those using it consider this counsel.

The overhead labor-hour formula

An automotive maintenance man who employs two mechanics working 8 hours daily pays for 4,800 hours yearly on the basis

of 300 working days, or 400 labor-hours a month. If his overhead is \$500 a month, the overhead chargeable to each labor-hour is \$1.25, so, the burden is charged to the customer on the basis of the number of hours put in on his job:

Materials	\$50
Labor—15 hours at \$2	30

\$80

Overhead expense—(15 labor hours at \$1.25 per hour)	\$18.75
--	---------

Over-all cost to which profit is added \$98.75

Many accountants claim that this is the best method to use in automotive maintenance work because overhead increases with time, and time never changes. Sixty minutes always make an hour. In this it differs from the overhead on sales volume or mark-up on cost formulas because sales volume and prime cost may change in a subsequent period. Then too, most items under overhead expense are purchased on a time basis: insurance is bought by the year, property taxes are paid by the year, depreciation is computed on a year's basis, rent is paid by the month, mortgage interest by the year, and so forth. However, this formula also has a weak spot. The men must work as

CONTINUED ON PAGE 120



Millions of cars are being driven beyond their normal life span. The rubber in the motor mounts has deteriorated. Grabbing clutch and other serious motor trouble often originates with faulty mountings.

It's good business to recommend Armor-Flex Motor Mounts with every clutch replacement or major motor repair job.

DISPLAY MERCHANDISER FOR FLOOR MATS & PEDAL PADS

Turn floor space into PAY SPACE with the new Doan Display Merchandiser. Ideal for salesrooms, car dealers and gas stations. Portable — attractive — self-service! Available with merchandise assortments to suit your business.

Write for descriptive folders and price list.

Patent Pending



Doan MANUFACTURING CORP. • CLEVELAND 12, OHIO

"Irving's a little wild today!"



Flexible Lines

NATIONALLY ADVERTISED TO THE CONSUMER

WINDOW
ADVERTISING
AND SALES
LITERATURE

(No Charge)



85% COVERAGE

Wall Merchandiser Rack with
28 lines of the 12 fastest
moving types.

Flexible LINES

Now in Stock at your AC Wholesaler

SATURDAY
EVENING
POST

Selling AC's
outstanding
quality to your
customers.



3-WAY MARKET COVERAGE



90% COVERAGE

35 "Tailor-Made" Lines,
5 to a box. Select the types
which fit your trade.



100% COVERAGE

Make-up Kit with 12 feet of
hose and supply of fittings.

AC SPARK PLUG DIVISION
GENERAL MOTORS CORPORATION

When writing to advertisers please mention Motor Age



"I KEEP HEARING SHRIEKS"

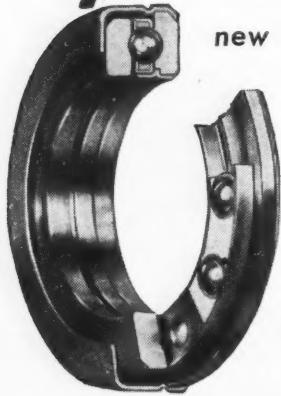
EVEN chronic "horn blowers" and "engine racers" become irritated by a persistent squeal or hum. When caused by faulty bearing action, the solution is simple—

That's your cue to call on BCA's Swishy—he can change a whine to a wisp of a whisper.

He'll show you why manufacturers choose BCA Ball Bearings to give new cars and trucks their swift, sure, smooth, silent performance.

AND HE'LL REMIND YOU:

When you rebuild a clutch or do a major overhaul, always include new BCA Bearings as protection against comebacks.



When you buy bearings, look for the Jobber displaying Swishy and always ask for BCA Ball Bearings.

LOOK FOR *Swishy* ON DISPLAY
ALWAYS ASK FOR **BCA**

BCA

Bearings Company of America, Lancaster, Pa.

Understand Your Overhead

CONTINUED FROM PAGE 118

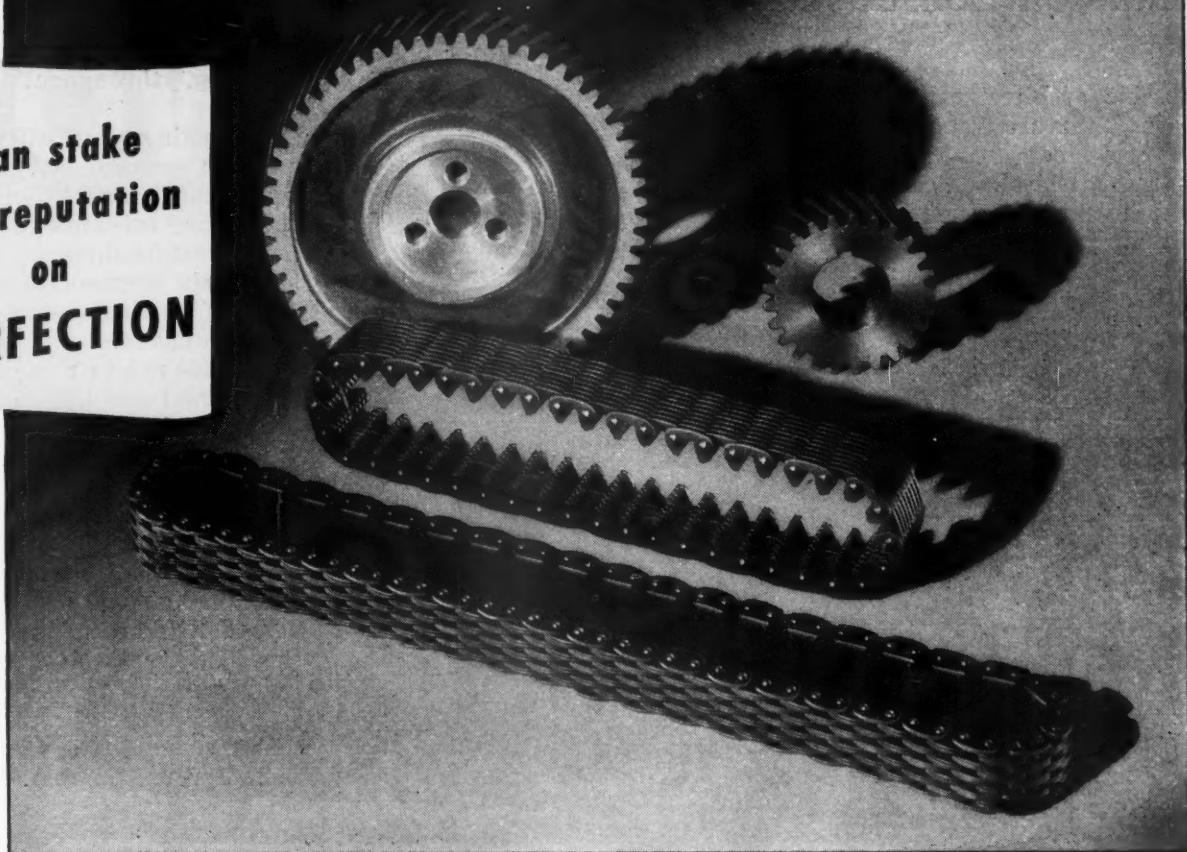
many productive hours in the current period as they did in the prior period. If they work fewer hours, you won't get back all your overhead during the current period. If you can get more productive hours out of them and charge your customers on the basis of prior period labor-hour figures, you will get back more overhead than you pay for, and increase your net profit; but, in actual practice, competition will prevent you from getting too much excess profit. Non-productive time is the thing to watch when using this formula, time lost waiting for materials to do a job, "soldiering" because supervision is inefficient, too much time spent cleaning up the shop, and so forth. To keep non-productive time at minimum, management must effect top-flight supervision and maintain adequate job costing records.

Overhead cannot be computed with dollars-and-cents accuracy when it is costed on estimates or computed on finished jobs. Many automotive maintenance men do not understand this. You can figure overhead to the penny on your financial accounts, which are the records from which you pay your bills for rent, light, insurance and other overhead outlay, but when you have to allocate a portion of this money to each job as it comes in, so that you can get your overhead expense back from customers, then it is more complicated than simple arithmetic.

Ford to Sell Automobiles Through Japanese Dealers

Ford Motor Co. has been granted permission to sell automobiles through accredited Japanese agencies to non-occupational personnel in Japan according to a report from Allied Headquarters in Tokyo. Ford is understood to be the only American automobile company to ask for permission to sell through Japanese channels, but it is believed other manufacturers soon will apply for similar arrangements.

You can stake
your reputation
on
PERFECTION



PERFECTION SILENT TIMING GEARS and CHAINS

Stay Silent!

Perfection Replacement Parts are all that their name implies. . . . You can depend on their precision accuracy and rugged durability to bring customer satisfaction on every job.

Perfection Silent Timing Gears are made of special laminated material noted for strength and long wear. They mesh perfectly and they *stay silent*.

Perfection Silent Timing Chains, too, maintain continuous and absolute silence. Chain design is such that direct wear between pin and links is eliminated.

There is a Perfection jobber near you. He carries a representative stock of these quality parts and is prepared to render prompt, efficient, friendly service. If you do not know his name, write us.

PERFECTION GEAR COMPANY, HARVEY, ILL.



PERFECTION PRODUCTS INCLUDE: Silent Timing Gears • Metal Timing Gears • Silent Timing Chains • Transmission Gears and Parts • Differential Ring Gears and Pinions • Differential Cases and Parts • Fly Wheel Gears • Cylinder Heads • Clutch Plates • Pressure Plates • Clutch Rebuilders • Clutch Cover Assembly Parts • Clutch Forks and Parts.

Hints on Construction . . . CONTINUED FROM PAGE 68

specific architectural design. Color, texture, and clean-cut modern lines can be combined in this material and at the same time maintain the simplicity and dignity which denote an established, dependable enterprise.

In choosing a material for new construction or for remodeling, maintenance as well as original

good appearance should be considered. The time and expense required to adequately preserve a building's good looks largely determines its long range economy and practicability. In order to maintain the original fresh appearance of architectural porcelain enamel, the only treatment necessary is periodic

washing with ordinary soap and water. It requires no special cleaners, no repainting or refinishing, throughout its lifetime.

Porcelain enamel will not fade, rust, or corrode. It is vermin-proof, unaffected by grease, by the fumes encountered in automotive establishments, and it is absolutely fireproof—a consideration of importance where valuable merchandise and highly inflammable materials such as grease and gasoline are housed under the same roof.

Porcelain enamel architectural panels are made by fusing a permanent coating of inorganic material onto sheet steel. They are rigid—requiring minimum bracing, and because of their comparative lightness in weight, they require relatively light foundations. The light weight, economy, and versatility of porcelain enamel panels also suits them for use in remodeling of old buildings. Extensive wall preparation and provision of support is unnecessary.

The easy cleanability and fireproof quality of porcelain enamel panels make them desirable for interior as well as exterior wall surfaces, and the pleasing colors obtainable in porcelain enamel are effective morale builders as well as sales builders, helping to set a keynote of efficient, up-to-date customer service.

LESS WORK... MORE PROFIT!

- NO WIPING
- NO CHAMOISING

Make car washing more profitable the ZECOL WASH WAY! All you do is wash . . . then rinse. You get that sparkling ZECOL look . . . no streaks or spots . . . without time-consuming wiping or chamoising. ZECOL WASH does the entire job! Remember, ZECOL CAR WASH is another top quality product . . . contains all active ingredients, no fillers or harsh alkalies . . . made by the manufacturers of famous ZECOL WAX!

ZECOL CAR WASH FOR AUTOMOBILES

ZECOL WASH

NO WIPING
CHAMOIS
STREAKS
SPOTS

AIR DRYING
TOPS IN SPEED AND EASE



SAFE TO USE
WILL NOT HARM
FINISH OR
AFFECT HANDS!

ECONOMICALLY PACKAGED!

6 oz. Cans (packed 12 to carton) for consumer sales . . . to wash 6 cars per can
4 lb. Can . . . to wash 128 cars
18 lb. Pail . . . to wash 578 cars (sturdy container has handle, can be used as wash pail)
36 lb. Drum . . . to wash 1156 cars
72 lb. Drum . . . to wash 2312 cars
170 lb. Drum . . . to wash 5440 cars

MAIL THIS COUPON TODAY!

ZECOL INC., MILWAUKEE 1, WIS. 7M

Gentlemen: Please rush me, without obligation, your latest price list and catalog on ZECOL CAR WASH.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____



"When I'm nineteen, Pop, how old will Myrna Loy be?"

LOW EXPANSION

When T-slots and cam grinding are added to
conformity of piston and barrel, you can be sure of closer
These three pioneering developments by hot.
mean an increased flow of smooth power.

ALUMINUM COMPANY OF AMERICA
Makers of Lo-Ex Piston Castings
of Alcoa Aluminum
2123 Gulf Building, Pittsburgh 19, Pa.
Sales Offices in Principal Cities



LO-EX *Pistons of Alcoa Aluminum*

Registered Trade Mark



Diamond T Announces New Heavy Duty Line

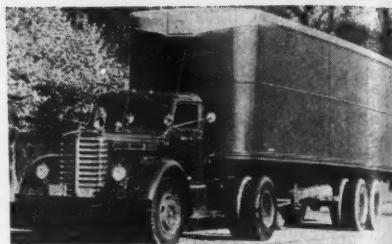
A brand new and notably advanced addition to the Diamond T line of heavy duty trucks—Model 704—was announced recently by T. C. Huxley, Jr., Director of Sales for Diamond T Motor Car Company, Chicago. The new model is now in production.

Powered by a TDXB super-service engine, one of the new

truck's features is an "untuned" vibration damper which the company says nullifies torsional vibration almost completely.

The power plant of the advanced new 704 delivers 162 brake horsepower at 2600 r.p.m. Piston displacement is 474 cubic inches and maximum torque is 364 pounds-feet.

"In a long series of wind tunnel tests and many months of road testing on commercial highways in all parts of the United



States, this new truck has demonstrated efficiency and freedom from maintenance troubles beyond any unit that we know," Mr. Huxley said in his announcement.

The new vibration damper is said to reduce torsional vibration to a marked degree, to improve timing and to eliminate an obscure source of truck servicing trouble. The new unit is mounted at the front end of the crankshaft and carries an internal flywheel floated in silicone fluid inside a sealed housing. This internal flywheel, which acts as a balancing weight and reacts against the vibration normally present, is the only moving part in the damper system.

The model also has a larger engine block with improved cooling facilities including 174-gallon water pump capacity; counterbalanced crankshaft, and a new type built-in oil cooler with oil manifold enclosed in the cylinder block.

The new 704 is equipped with a 12-volt electrical system with an oversize, 55-ampere, belt-driven generator mounted high above the engine. A 14-inch clutch is standard equipment, as are automatic radiator shutters and a built-in mechanical tachometer.



GATKE GROOVED BRAKE RELINES give EXTRA VALUE

GATKE Diagonal Grooves eliminate extraneous matter and keep surfaces clean for uniform braking contact. They induce air cooling—quickly restore the efficiency of wet brakes and prolong life of drums and lining.

What is more, the Grooves are visible evidence of mechanical superiority. They enable you to show why your GATKE Grooved Brake Relines are better.

Use GATKE Blue Ribbon Sets for your next five relines—let your customers tell you it's the smoothest, quietest brake they ever had.

INTRODUCED Genuine Moulded Brake Lining for automotive use.

ORIGINATED Wire-Back Moulded Brake Blocks.

DEVELOPED the first patentable Automotive Brake Lining.

PIONEERED CUSTOM-BILT Brake Lining Sets.

LED the development of Brake Blocks for Trucks, Trailers and Buses.

CHAMPIONED correct balance between liners for primary and secondary shoes as essential to maximum efficiency.

INITIATED oversize brake lining to compensate for drum wear.

PERFECTED the Simplified Brake Survey System for Fleet Operators.

INITIATED Standard Quality at low cost in the Standard Brake Lining Program.

INSTITUTED Comprehensive Labeling of Brake Lining Sets

PROMOTED Simplified Brake Lining Catalogs

INVENTED Grooved DURA-BLOK Brake Lining.

POPULARIZED TELL-ALL Labels for Boxed Brake Lining Sets.

Gatke
CUSTOM-BILT

BRAKE LININGS

BLOCKS SETS ROLLS SHEETS

GATKE CORPORATION
236 N. La Salle St., Chicago 1, Ill.

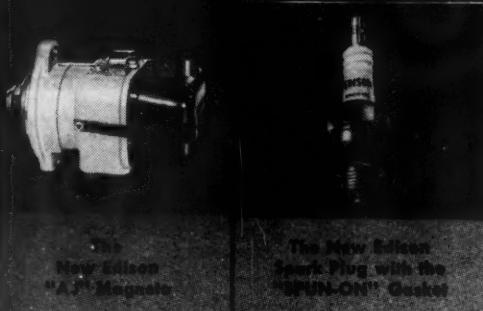


behind these great products . . .

a great
American scientist



The new Edison "Extra Heavy Duty" Battery has "Endurite" separators, which make possible 50% longer battery life. For all passenger cars, commercial vehicles and tractors.



The New Edison
Spark Plug with the
"KUTIN-ON" Socket

EDISON

Thomas A. Edison

Thomas A. Edison, Incorporated
Automotive Division
West Orange, New Jersey

You can always rely on an Edison.



Can Your Wife "REBAKE" BISCUITS WITHOUT BURNING THEM?

● The biscuits are nice and fluffy, done to a golden brown. Now your wife drops a fresh dab of dough on each, puts 'em back in the oven, and hopes to bake those fresh dabs just right without burning the biscuits. You wanna bet she can do it? Of course not! And you can't do it with inner tubes, either.

BOWES "Seal Fast" Chemical Process TIRE AND TUBE REPAIR

avoids all chance of scorching the tube, because there's no baking. What's more, the place where a Bowes patch is applied becomes actually the *strongest part of the tube*. Those are advantages to your customer. The advantages to *you* are that: (1) you give your customers *better* tube repairs the Bowes way; (2) it takes much less of your time and effort—and—surely, time means money to you. Your Bowes distributor will gladly demonstrate the difference . . . and show you how Bowes "Seal Fast" Chemical Process Tube Repairs increase your profits!

THERE'S PROFIT IN THE BOWES LINE!

Bowes dealers don't sell everything a motorist needs . . . but they do sell the fast-moving, profitable items . . . with the backing of a tremendous advertising campaign at no cost to them. Get the facts about the Bowes system!



BOWES "SEAL FAST" CORPORATION
INDIANAPOLIS 7, INDIANA

Ford, GM End Fleet Rebates,
Other Companies to Follow

CONTINUED FROM PAGE 58

also is said to be considering similar action and strictly passenger car companies that have fleet agreements are expected to follow suit with the possible exception of Packard and Kaiser-Frazer. It is believed also that recent wage increases were an important if not decisive factor in prompting the elimination of the rebate. Another possible factor may have been that in some cases individuals buying cars under an employer's agreement had abused the privilege by selling cars in the black market. Another reason is that the fleet agreement had evolved from a rather exclusive arrangement originally, covering purchase of rather broad base resulting in topheavy administrative costs which could not be justified in the current period of cost cutting. It is estimated that about 10 per cent of the trucks sold were purchased under fleet agreements.

K-14 Russell Brake Timing

The Russell Mfg. Co., of Middletown, Conn., has introduced a new type of brake lining now available for Chevrolet, Ford and Chrysler products. Said to be unlike conventional linings, this new product, called "Fused Fabric," is not woven, molded or wire back. The manufacturer reports that the process by which this material is made utilizes not only a greater number of strands of reinforced asbestos, but permits these strands to be completely permeated with more treatment than has heretofore been possible. When subjected to heat and high pressure, these permeated strands produce a uniform material with a density of 190 pounds per cubic foot, according to the manufacturer. It is also said that due to the water repellent properties of the Fused Fabric lining, "grab" and "fade", under wet or damp conditions, are reduced to a minimum.

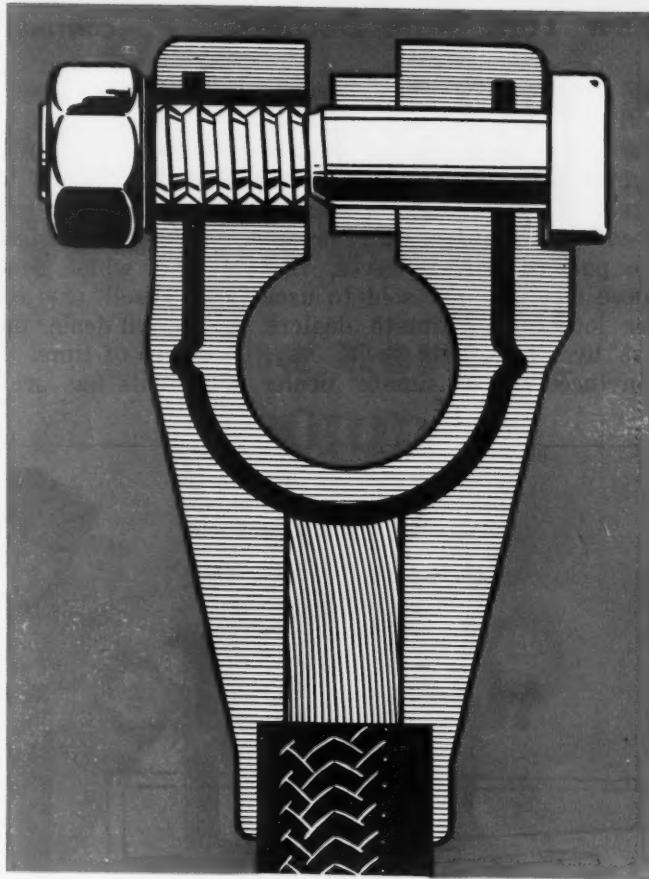
For further information use coupon on page 66.

Pac
man
new
effic
Che
allo
ste
kee
slee
cor

Only

PACKARD BATTERY CABLES

*have the
new LEADALLOY
TERMINAL*



BUILT-IN FEATURES OF LEADALLOY TERMINAL—Note the U-shaped insert of heavy steel to prevent distortion, the hard-metal shield surrounding the threads, and the compression sleeve protecting the bolt. The cable core and insulation are sealed right into the terminal.

Packard's Leadalloy terminal, long known for its many superiorities, now is better than ever. Its new built-in features assure easy servicing . . . efficient performance . . . quick sales.

Check these outstanding features of the Leadalloy terminal: The alloy is non-corrosive. Its new steel insert prevents stretching. A thread-shield keeps the bolt from jamming. The compression sleeve prevents distortion and saves the bolt from corrosion. And the base of the terminal grips the

cable insulation, sealing off the core from acid fumes. Packard battery cables, equipped with the Leadalloy terminal, are full No. 1 gauge, insuring maximum starting capacity. And they have the famous Korelug originated by Packard, and formed as an integral part of the copper core, for easy attachment to any starter post.

At no extra cost these outstanding cables assure every replacement customer long, trouble-free service and superior performance.



**FOREMOST BUILDER
OF AUTOMOTIVE AND
AVIATION WIRING**



New York State Dealers . . . CONTINUED FROM PAGE 59

The Association president said there had been a great deal of public sentiment against the "grey market" sale of "slightly used" cars at exorbitant prices. He pointed out, however, that these cars are not sold to used car lots by legitimate dealers, but by individuals "who have convinced a legitimate dealer

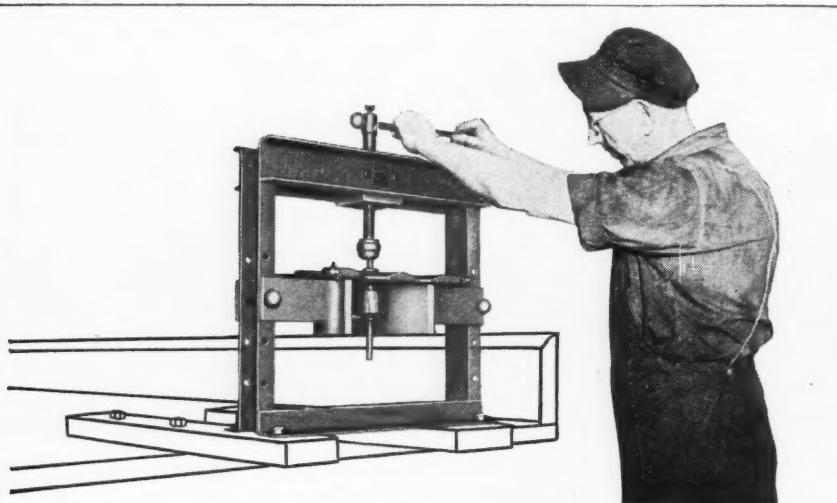
that they need a car," he added.

"To stop this practice, and protect people who really need cars, most of our member dealers now use a resale agreement, under which purchasers promise to resell the car only to the original dealer during a specified length of time.

"This has proved highly suc-

cessful in frightening off those persons who buy cars only for the purpose of making a quick profit," he said, "but additional public cooperation is needed. Every person who purchases a "slightly used" car at one of the inflated prices is helping to perpetuate a racket that should be stopped, if the people who really need cars are to get them."

Speakers at the three day convention, as announced by Convention Chairman Ralph Horgan of New York City, include: J. R. Davis, vice-president of Ford Motor Company; Clifford J. Fletcher, State Commissioner of Motor Vehicles; Thomas W. Ryan, State Safety Director; State Senator Seymour Halpern; Arthur C. Butler, director of the National Highway Users Conference; John W. Stokes, automotive tax expert; L. J. Buckland, automotive consultant, and Ben. T. Wright, president of the National Automobile Dealers Association.



Here's a VERSATILE PRESS OF GENERAL UTILITY



UT10 Press—
10 Ton. Shown
above. Available
in three sizes: 11",
17", and 26" ca-
pacity over table,



UT10-40 Open Front
Table. Fits all UT10
presses. Table opening
seven inches.

MAIL COUPON

For catalog describ-
ing this and other
Dake Arbor Presses,



UT10-60 Holder. For
holding generator while
removing pole screw.



UT10-30 Puller Plate
Assembly. For remov-
ing bearings and pulleys
from generators, motors,
water pumps, etc.



UT10-50 Pole-Shoe
Screwdriver Assembly.
For easy removal of
generator pole shoes.

Dake Engine Company 626 Seventh St., Grand Haven, Mich.
Please mail me a copy of the latest Dake Arbor Press Catalog.
Name _____
Title _____
Address _____

DAKE
ENGINE COMPANY
GRAND HAVEN, MICHIGAN

Murray Corporation Enlarges Facilities

Murray Corporation of Towson, Maryland, manufacturers of Murray Wire-Grip Hose Clamps and other automotive necessities, has just completed construction of a new building which will house their entire shipping department.

1948 Factory Sales From U. S. Motor Vehicle Plants*

PASSENGER CARS

	1948	1947
January	305,081	246,605
February	274,847	267,015
March	349,998	301,525
April	308,071	314,765
May	225,461	284,357
5 Months	1,463,458	1,414,267

TRUCKS

January	99,200	99,818
February	107,054	105,042
March	140,606	118,234
May	111,789	96,430

5 Months

587,612 526,508

BUSES

January	1,370	1,273
February	1,090	1,303
March	1,409	1,421
April	1,048	1,650
May	1,281	1,853

5 Months

6,198 7,500

TOTAL MOTOR VEHICLES

January	405,651	347,696
February	382,991	373,360
March	492,013	421,180
April	438,082	423,399
May	338,531	382,640

5 Months

2,057,268 1,948,275

1800 PAGES OF "SHOW-HOW"

the new
Thompson
Technical
Library

*at no cost
to you*



These typical pages show how clearly information is presented.

Invaluable to Every Mechanic, Veteran or Apprentice alike!

- ... 16 volumes on passenger cars.
- ... 11 volumes on trucks, buses, tractors, Diesel and industrial engines.
- ... covers models back to 1939.
- ... 6000 pictures and diagrams; shows how tricky assemblies come apart and go together again—how accurate final adjustments are made.
- ... supplementary bulletins come to you on newly introduced models as information becomes available.
- ... in indexed 20-gauge steel cabinet, handy for wall, bench or desk.

See Your Distributor of

Thompson Products

CLEVELAND • DETROIT • LOS ANGELES



The 27 separate indexed volumes in this big set enable several mechanics to use it at one time.

PHONE YOUR TP JOBBER NOW for full details of how you can get this streamlined new TP Technical Library complete, or in part, AT NO COST TO YOU. Or simply mail this coupon to your TP Jobber.

Sir: I want the NEW TP Technical Library. How do I get it?

Name _____

Company _____

Address _____

Legally Speaking

Parking Lot Operator Sues For Assault

Even an alleged overcharge does not justify a customer in beating up a parking lot operator. A California customer who did it had to pay \$1500 for the privilege.

According to the evidence in the case, the customer parked

his car on the lot in such a way that it occupied portions of two different parking stalls, locked the car and left it on the lot all day. Upon the lot was posted a sign reading, "Locked cars 50c."

When he returned for his car the customer handed the operator 25c for the parking fee, but

because the car was locked and was occupying parts of two stalls, the operator requested a fee of \$1. The customer ignored him, got in his car and inserted the key in the ignition. Reaching into the car, the operator removed the ignition key.

The customer then alighted from his automobile and hit the operator a blow in the face that staggered him. The customer hit him again and the operator then fell backwards to the cement pavement.

Later the parking lot operator sued the customer for the injuries resulting from the alleged assault and battery. The operator testifying that as a result of the beating his right cheekbone was fractured, that he underwent an operation to reduce the fracture and continued to suffer pain from time to time up to the time when the case was tried.

The court decided that these injuries were the direct result of the wrongful and malicious assault and beating. A verdict of \$1500 was rendered against the customer.

Technically, the parking lot operator's demand for \$1 was an attempted overcharge, because under the prevailing law he could not charge more than the fixed fee of 50c for a locked car, even though the car occupied parts of two parking spaces.

CONTINUED ON PAGE 132

TOPPER NO. 3
SUPERO Coils have
super-service windings
— precisely balanced to
insure peak performance
and economy. All
making experience has
taught is reflected in
the quality of SUPERO
Coils.

with SUPER GO

America's
OUTSTANDING IGNITION PARTS

Organization . . . development . . . field proof . . . It's a 45 year pattern at Wells in developing today's advanced SUPERO Automotive Ignition line. It's a line of heavier duty, super performance parts that are precision built for exact fit and easier installation.

ALL SUPERO parts are backed by an unconditional guarantee of satisfaction. Ask your jobber to serve you with SUPERO. Wells Mfg. Corporation, Fond du Lac, Wis.

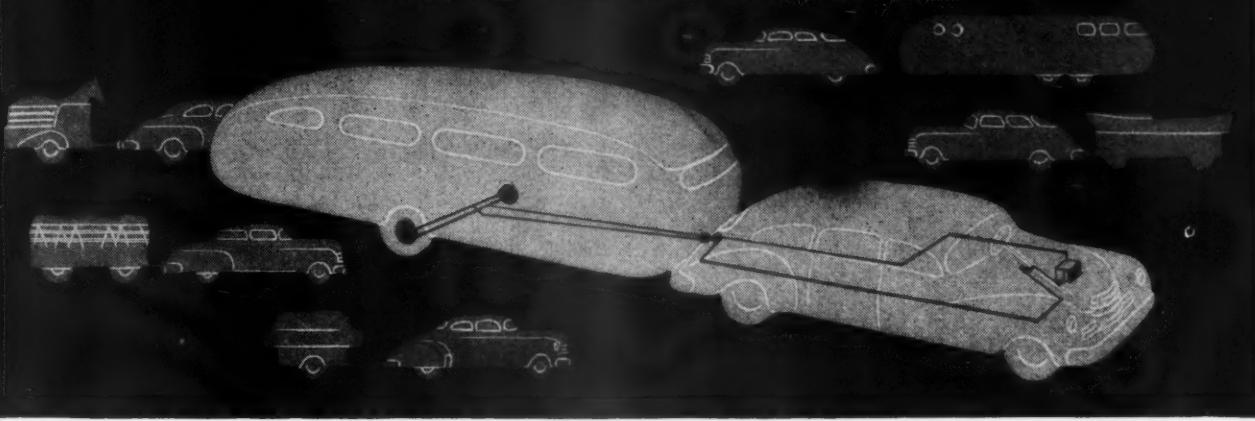
QUALITY TELLS . . . DEMAND WELLS.

WELLS
Automotive Ignition



KELSEY-HAYES ELECTRIC BRAKES

Stop Trailers Faster, Smoother, Safer!



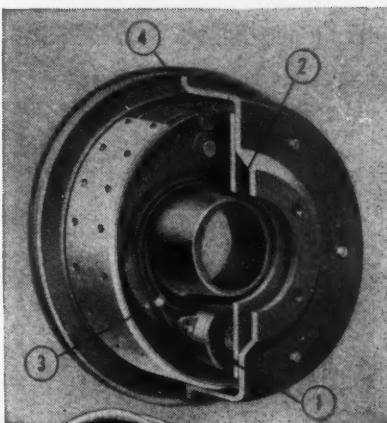
**Made by Kelsey-Hayes—World's Famous Producer
of Wheel and Brake Equipment . . .**

Kelsey-Hayes "Magdraulic" Electric Brakes are recognized as the ideal system for house trailers, utility trailers, farm wagons, implements, and industrial equipment.

- Kelsey-Hayes' superior Electric Brakes have greater power-to-brake size for handling overloaded conditions.
- Kelsey-Hayes' superior Electric Brakes, fully adjusted at the factory, require no adjustment during or after installation.
- Kelsey-Hayes' superior Electric Brakes are the easiest and cheapest to install, hook up, operate, and require no running-in period.
- Kelsey-Hayes' superior Electric Brakes cannot freeze, have self cleaning action, are self aligning, are smoother, more powerful, safer.

- 1 A mere feather-touch of the control instantly sends current to this electromagnet to press it against the armature disc.
- 2 This armature disc, rotating with brake drum, develops a frictional force to pull the magnet across the face of the armature disc.
- 3 This lever, moved by the magnet mounted at its end, multiplies the magnet force to give a very high torque output against the actuating pin.
- 4 This actuating pin then moves the brake shoe links to spread the brake shoes, thus pressing the brake band against the drum.

Kelsey-Hayes' Nation-Wide Sales and Service on Wheels, Hubs, Drums and Brakes, Through 47 Distributors in 25 States Assures Greatest Convenience, Wherever You Are.



... ASSURES PROVEN PRODUCTS AT . . .

KELSEY-HAYES WHEEL COMPANY
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Wheels—Hub and Drum Assemblies—Brakes—"Vacdraulic" Brake Power Units—for Passenger Cars, Trucks, Buses—made by Kelsey-Hayes' 4 Michigan Plants and Windsor-Canada Plant • "Magdraulic" Electric Brakes—"Lathan" Vacuum Power Brake Equipment for Tractor-Trailers—made by Kelsey-Hayes' South San Francisco-Lathan Plant. Wheels—Hubs—Axles—Parts for Farm Implements—made by Kelsey-Hayes' French & Hecht Plant at Davenport, Iowa.

Legally Speaking CONTINUED FROM PAGE 130

When the customer appealed from the verdict he argued that his beating of the operator was not unlawful, but was justified by the excessive parking charge of \$1.

Dismissing this contention, the California court said:

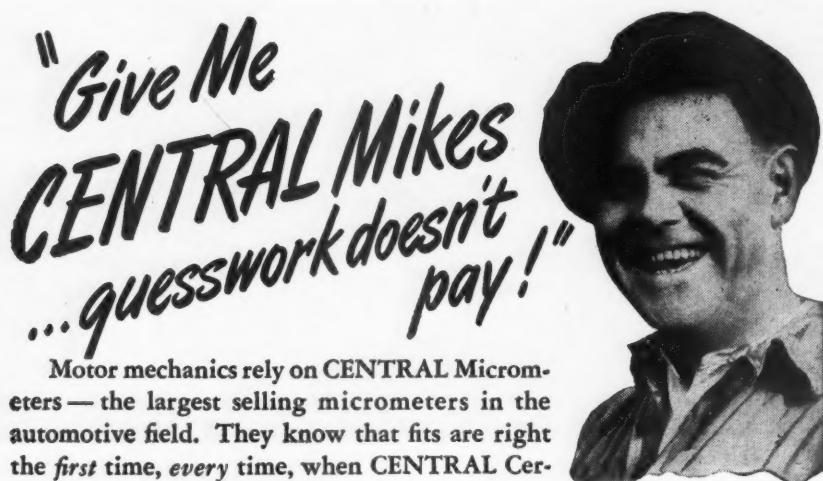
"He insists that his conduct was not unlawful because the

plaintiff made an excessive and unlawful charge for parking his automobile and was unlawfully withholding his vehicle from him. This argument is unavailing. He bailed his vehicle to the plaintiff for parking purposes and the latter secured possession of it legally. The fact that the customer was entitled to the

right of possession of the automobile did not entitle him to take it from the plaintiff, who was in the actual rightful possession, by force or violence.

"Even if it were conceded that his car was being wrongfully withheld from him and that he had a legal right to use force to retake it, nevertheless the verdict against him must be sustained on the ground that he resorted to more force than was reasonable, necessary or proper. Since there is evidence that he struck the plaintiff in the face with his fists with such force that he staggered him and then struck him again with such force that the plaintiff was knocked down and severely injured, the conclusion is justified that the force used was unreasonable, unwarranted, and was consciously intended by the customer to be wilful, malicious and excessive."

The verdict of \$1500 against the customer was upheld. (*Rogers vs. Kabakoff*, 184 Pacific Reporter, 2nd series, 312).



Motor mechanics rely on CENTRAL Micrometers — the largest selling micrometers in the automotive field. They know that fits are right the first time, every time, when CENTRAL Certified Accuracy checks the size.

CENTRAL Mike says —

"Tackle any job with these two sets!"

SET No. 745-RL

Outside Micrometers. Range: 0 to 4 inches by thousandths. Four micrometers, complete with Ratchet Stops, Lock Nuts and Standard Test Gauges in De Luxe Plush-Lined Case.

SET No. 808

Inside Micrometer. Range: 1½ to 8 inches by thousandths. Complete with Extension Handle in De Luxe Plush-Lined Case.

There's a CENTRAL Micrometer for every requirement. See your Jobber or write for Catalog.

THE CENTRAL TOOL COMPANY
462 WELLINGTON AVE., CRANSTON 10, R. I.

CENTRAL
Certified Accuracy
MICROMETERS

FOR HALF A CENTURY SPECIALISTS IN FINE MICROMETERS

Oral Contract Has One Year Limitation

A repairman who makes a contract for service that cannot be performed within one year may not be able to collect unless the contract is in writing.

CONTINUED ON PAGE 134



"JOB-PACKAGED" CORK GASKETS prevent delays

You can do a job from start to finish—without losing time because a needed cork gasket was overlooked—when you use Armstrong-Victor new "Job Packages." Each package contains the one or more cork gaskets needed for a specific repair job. Armstrong-Victor Cork Gaskets stay fresh and flexible, too, because these handy "Job Packages" have a separate protective wax liner.

Armstrong-Victor "Job Packages" are available for all popular makes of cars, buses, trucks, tractors, and stationary engines. The A-V Line is the complete line that covers all your cork gasket requirements. And every A-V gasket meets the manufacturer's original equipment specification.

Order Armstrong-Victor Cork Gaskets in the new "Job Packages" today. Your jobber can fill your needs quickly. See for yourself why it pays to say "Armstrong-Victor" when you buy cork composition gaskets.



VICTOR GASKET GUIDE

Victor publishes the most comprehensive Gasket Guide compiled—contains factory and Victor parts numbers, special indexes, popularity ratings, etc. Victor Manufacturing and Gasket Company, 5750 Roosevelt Road, Chicago 50, Ill.



Armstrong-VICTOR



der the Statute of Frauds, which is in effect in every state, an oral contract which cannot be performed in one year is void and unenforceable. It cannot be enforced unless it is in writing.

Sometimes, however, the courts soften the harshness of this rule by allowing a party to such a contract to recover the

reasonable value of the services actually performed.

"When a contract for personal services is not enforceable or is void under the Statute of Frauds," explained the Supreme Court of Utah recently, "because not performable within a year, the courts will generally permit the plaintiff to recover the rea-

sonable value of services rendered by him, in pursuance of the oral agreement."

Warning that nothing can be collected for work done outside the terms of the agreement, the Court continued:

"Services performed outside the terms of the agreement would, of course, ordinarily be voluntary and therefore payment for such services could not in any case be recovered regardless of the Statute of Frauds."

"One might perform work or services intended for his own benefit or for the benefit of another in reliance upon an unenforceable agreement. Generally, unless such services enhance or benefit the property of the defendant, or otherwise confer on him a direct benefit, they do not form the basis for a contract imposed by law. Where such services operate to confer a direct benefit upon the defendant, they may be recoverable."

Obviously, where a customer orders certain work done on his car, and the repairman replaces a part or does work not within the scope of the customer's order, he takes the risk of not being paid. (*Baugh vs. Darley*, 184 Pacific Reporter, 2nd series, 335).

CONTINUED ON PAGE 138

**The Most Complete Coverage
in the
Automotive
Field...**

- QUALITY PRODUCTS
- UNCONDITIONALLY GUARANTEED
- UNIFORMLY BOXED

LINE UP WITH LION

LION AUTO PARTS AND MFG. CO.
1920 SOUTH MICHIGAN AVE., CHICAGO 16, ILLINOIS



"Heaven — O!"

You get Extra Service Dollars

WITH

DELCO SUPER 9

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DECLENE

Yes, Delco Super 9 brake fluid and Declene flushing fluid mean more profits for you. Brake service that includes the often-overlooked **hydraulic** system pays big dividends in immediate profits plus a bonus of customer satisfaction that will bring in a steady stream of repeat business. Delco Super 9 and Declene mean satisfied customers who will make your shop headquarters for their brake service needs.



DECLENE Flushing Fluid cleans out *all* the old, deteriorated brake fluid from hydraulic lines; gets rid of dirt and gum.

DELCO SUPER 9 Brake Fluid is long-lasting and effective over a wide temperature range. (50° F. below to 300° F. above.) It's non-gumming—safe for metal and rubber parts.



DELCO BRAKE—A UNITED MOTORS LINE
Available Everywhere Through
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NEW DELCO SUPER 11 HEAVY-DUTY BRAKE FLUID

A brand new fluid developed to meet the severest requirements of truck and bus braking even under extreme conditions of load, road and weather.



MORAINE PRODUCTS DIVISION OF **GENERAL MOTORS**

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STANDARD FOR EQUIPMENT • THE STANDARD FOR REPLACEMENT

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makes
the
spark
plug
what
it is

FRENCHTOWN INSULATORS

are used by more spark plug manufacturers than any other make - the result of 31 years constant research.

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Sales Office, 8 Muirhead Ave., Trenton, N. J.

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In 1947
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*again helped to win
FIRST AND SECOND PLACE
in Indianapolis Classic*



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MAURIE ROSE DRIVING BLUE CROWN SPARK PLUG SPECIAL #3 AND BILL HOLLAND DRIVING BLUE CROWN SPARK PLUG SPECIAL #2 FINISHED FIRST AND SECOND IN THE 500 MILE CLASSIC HERE TODAY REPEATING THE SAME PERFORMANCE OF FIRST AND SECOND AS IN LAST YEAR'S 1947 CLASSIC STOP BOTH CARS WERE EQUIPPED WITH BLUE CROWN SPARK PLUGS USING FRENCHTOWN INSULATORS. STOP THE COMPLETE SET OF BLUE CROWNS IN BOTH CARS FINISHED THE ENTIRE 500 MILES WITHOUT A MISS. THE FINE QUALITY OF FRENCHTOWN PORCELAINS HELPED US GREATLY TO MANUFACTURE A SPARK PLUG TO STAND UP UNDER THE TERRIFIC BEATING IT RECEIVES IN A 500 MILE RACE. CONGRATULATIONS ON MAKING A FINE INSULATOR*

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23

WAYS to MAKE and SAVE MONEY



MAGNUS CLEANERS for automotive service work are all outstanding in performance and economy of use. And there are 23 distinct ways of using them to make money—either through better, more profitable service to your customers...cleaner, more attractive shop surroundings...or more economical ways of doing a job.

Here's a list of these 23 Magnus Money Makers. Look 'em over!

- | | | |
|--|---|-------------------------------------|
| <input type="checkbox"/> Engine Desludging | <input type="checkbox"/> Radiator Cleaning | |
| <input type="checkbox"/> Sludge Prevention | <input type="checkbox"/> Upholstery Cleaning | |
| <input type="checkbox"/> Engine & Chassis Cleaning | <input type="checkbox"/> Hand Cleaning | |
| <input type="checkbox"/> Carburetor-Fuel Pump Cleaning | <input type="checkbox"/> Skin Protection | |
| <input type="checkbox"/> Car Washing | <input type="checkbox"/> Fuel Oil Economy | |
| <input type="checkbox"/> Concrete Floors | <input type="checkbox"/> Magnus Sprayer | |
| <input type="checkbox"/> Painted Garage Floors | <input type="checkbox"/> Magnus Steam Gun | |
| <input type="checkbox"/> Show Room Floors | <input type="checkbox"/> Magnus Cleaning Machines | |
| <input type="checkbox"/> Cold Tank Cleaning | Including | <input type="checkbox"/> "Miji-Dip" |
| <input type="checkbox"/> Steam Gun Cleaning | <input type="checkbox"/> "Kol-Dip" | <input type="checkbox"/> "Hot-Dip" |
| <input type="checkbox"/> Hot Tank Cleaning | <input type="checkbox"/> "Aja-Dip" | <input type="checkbox"/> "Aja-Lif" |

Bulletin 40 covers all these sources of profit. Why not check the ones in which you are most interested, tear out this page and enclose it when you write for Bulletin 40? We'll send additional literature on the subjects you check.

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IN THE AUTOMOTIVE FIELD IT'S

MAGNUS

CLEANERS • EQUIPMENT • METHODS

Legally Speaking

CONTINUED FROM PAGE 134

Restraining Employee Competition By Law

Sometimes a repairman's employee, after becoming friendly with customers, will leave and either go into business for himself or become associated with the repairman's competitor. The former employee then attempts to take the customers from his old employer.

This is an old story in many lines of business and to overcome this possibility a New Jersey concern required an employee to enter into a contract agreeing that for a period of three years after the termination of his employment with the company he would not in any way or in any capacity attempt to solicit or cater to the company's customers either for himself or any rival concern.

Actually, the employee who signed this contract left the company's employ and promptly began to solicit its customers. His former employer took legal action to stop him.

Ruling in favor of the former employer, the New Jersey Court of Chancery said:

"It is conceded that during the period of his employment the defendant became personally acquainted with the customers whom he served.

"Neither modern public policy nor court decisions of recent years have forbidden contracts in restraint of trade between employer and employee where the restraint is reasonably necessary for the protection of the business of the employer and not unreasonably restrictive in point of time or territory upon the normal rights of the employee.

"The primary factor to be considered is whether the contract has a wider scope than is reasonably required to afford a fair protection in favor of the employer or whether it is unreasonably restrictive of the rights and opportunities of the

CONTINUED ON PAGE 140



What "Stepping Down" means

How the New Hudson, America's most streamlined car with the low silhouette, brings roominess and comfort never before obtainable in an automobile.

You've seen them flashing by in all their sparkling color—those trim, gorgeous New Hudsons with the low, streamlined silhouette.

But have you really examined one of these amazing cars? They are the *big news* in the automobile world today!

Hudson, always known for great forward steps in the development of the automobile, and for *efficient use of motive power*, is again way out ahead with a motor car that hits a new high in *efficient use of space*—that makes a greater percentage of its total space actually available for passenger use and comfort.

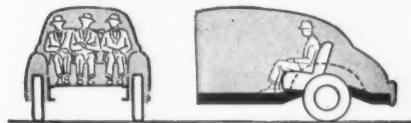
When you take a close look, you'll find that Hudson, through the use of a new, exclusive "step-down" zone, reclaims so much usually wasted space that this sensationaly efficient car gives more useful interior room than ever before provided in an automobile.

This new kind of motor car has a sturdy foundation structure surrounding the passenger compartment, which permits the floor to be recessed down within the base frame so that you step down when entering. This makes space between frame members, which is

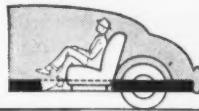
usually wasted, available for use inside the car.

Seats can thus be lowered to harmonize with the new, lower top, and by stepping down into Hudson, which is only five feet from ground to top, riders get *more head room* than in any other mass-produced car built today!

And how about seating room? Hudson's new design reclaims space formerly taken up by wheel housings and protruding fenders. This is accomplished by placing rear seats ahead of the rear wheels, in a zone unrestricted by wheel housings. As a result, rear seats are 15 inches wider in this car that is only little more than four inches wider over-all. Both rear and front seats extend the full width of the body, giving Hudson the *roomiest* seats in any American-made car! Hudson's use of the "step-down" zone and unique seating arrangements are illustrated in the sketches that follow:



OTHER CARS—Passengers ride on top of a frame, and (in the rear seat) between rear wheel housings, which occupy space that should be a part of seating room. Riding on top of a frame means that essential head room must be reduced if the roof is lowered for streamlining.



NEW HUDSON—Passengers ride cradled down within Hudson's base frame, and also ahead of the rear wheels. Seats can therefore extend full width of the car. Due to the use of the "step-down" zone, roof is lowered for streamlining, yet ample head room is provided.

The New Hudson even reclaims the unused space in doors by providing gorgeously tailored, recessed compartments where interior door handles, window cranks, ash receivers and generous arm rests are placed out of the way to allow increased elbow room for passengers.

This development of Hudson's exclusive, all steel Monobilt body-and-frame* with its "step-down" zone required years of engineering work, the perfection of new production techniques and millions of dollars in highly specialized new plant investment. This may be why Hudson, and Hudson alone, offers this important advance today!

Hudson dealers coast-to-coast report that enthusiastic thousands are acclaiming the beauty, riding qualities, and safety—as well as roominess and comfort—that "stepping down" makes possible. Hudson Motor Car Company, Detroit 14.

*Trade-mark and patents pending



This time it's Hudson

Eight body styles in Super Series, and Commodore Custom Series. Your choice, 121 h.p. all-new Super-Six or 128 h.p. masterful Super-Eight engine. Super-Cushion tires. Ten rich body colors. Two special colors or five two-tone combinations—white sidewall tires—at extra cost.

employee, or whether it is prejudicial to the public interests.

"Courts of equity will protect an employer against a breach of a written agreement, reasonable in its terms, made by an employee not to engage with a rival after the termination of the employment, where the services of the employee have been of such

a character that he gained knowledge of his employer's business methods and secrets, the disclosure of which to a rival would result in irreparable injury to the employer, and where it further appears that the purpose of the subsequent employment was to obtain the benefit of those secrets and that there

is danger that through such subsequent employment such secrets would be disclosed."

The Court made an order enforcing the contract against the employee. (*Pilgrim vs. Krzywulak*, 56 Atlantic Reporter, 2nd series, 584.)

K-15 Prehler Sander

The unique feature of the Flex Sander, manufactured by Prehler Proved Products, Chicago, Ill., is that its finishing surface bends to fit the work. According to the manufacturer, the Prehler



BENDIX-SKINNER

1

Large capacity

2

Non-collapsible element

3

Higher filtration efficiency

4

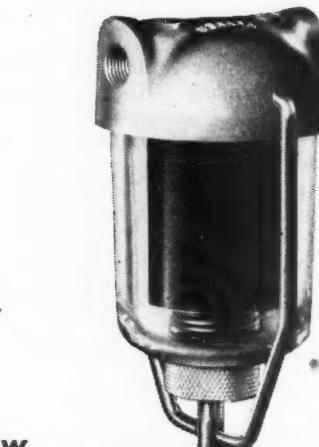
Minimum resistance to flow

POINT FILTERS

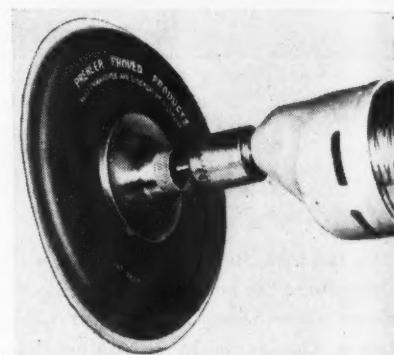
Make extra profits on carburetor overhauls by suggesting the installation of a Bendix-Skinner Gasoline Filter. The small cost and big savings will sell themselves to economy-minded owners. Quickly installed, Bendix-Skinner Gasoline Filters assure you a steady turnover and satisfied customers. Add new profits with these filters—see your Bendix-Stromberg and Bendix-Skinner Filter Distributor.

SKINNER PURIFIERS DIVISION OF

1500 Trembley Avenue, Detroit 11, Michigan



Look for these Patterns of Purity



Flex Sander-Polisher makes any drill $\frac{1}{4}$ inch or over a sander or polisher in three seconds, and also works with lathes, drill presses, or flexible shaft tools. The sanding discs are standard seven inch size with $\frac{5}{8}$ inch punched hole center, and a lamb-skin bonnet is included in the kit for conversion to a polisher.

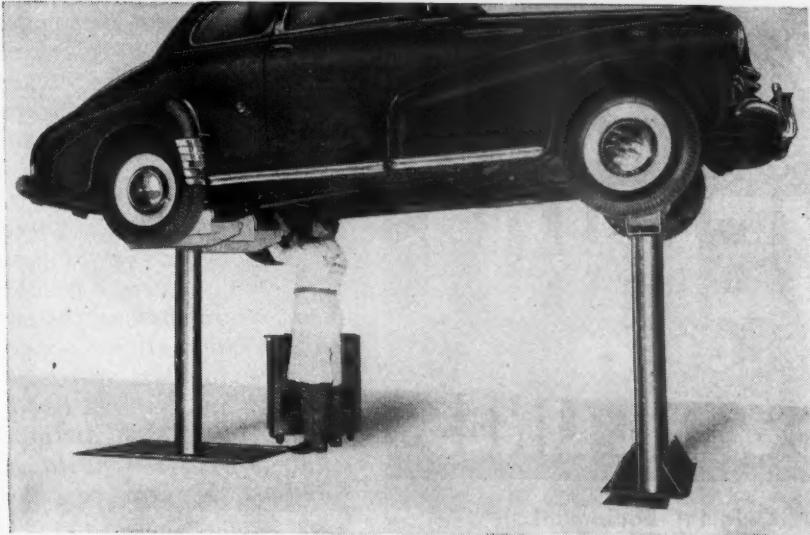
For further information use coupon on page 66.



"You must be just what the doctor ordered!"

The BEST and the MOST with a GLOBE 2-Post

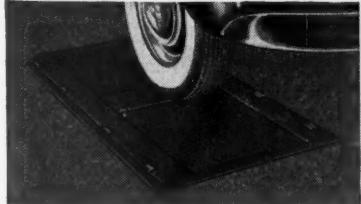
U. S. and Foreign Patents Pending



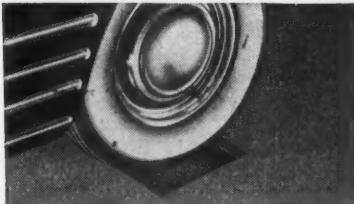
THE LIFT THAT GIVES YOU EVERYTHING . . .

These pictures show just a few of the EXTRA advantages you get with a Globe 2-Post . . . features which cannot be matched by any similar Lift on the market. So much more in easy spotting, serviceability, convenience . . . to save you time, trouble, and money! No wonder, as in every type of Lift, it's *Globe* coast-to-coast. Write for free circular today, and see what this great Hoist can do for YOU.

MORE GLOBE-PIONEERED FEATURES OF DESIGN . . .



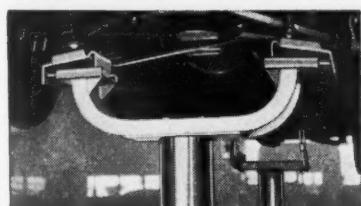
SMOOTH FLOOR Slot-recessed blade rails. Automatic slot cover doors optional.



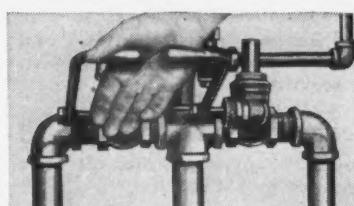
INSTANT SPOTTING No inconvenient sliding mechanisms to obstruct floor area.



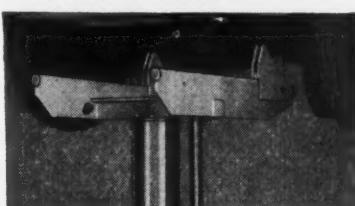
EASY JACK thanks to *Globe*-pioneered jack-spotting method.



ADJUSTABLE FRONT JACKS for positive contact of all size vehicles.



HANDY CONTROL LEVERS One hand operates two cylinders together, or one alone, as desired.



EDGE-MOUNTED BLADE RAILS on eccentric rear superstructure. Gives greater accessibility.

GLOBE *Auto* HOIST

THE "BEST" LIFT . . . SAFER, SMOOTHER, QUICKER

GLOBE HOIST COMPANY • Philadelphia 18, Pa. • Des Moines 6, Iowa

America's Most Complete Line of Hydraulic and Electric Lifts . . . Automobile, Bus, Truck, Double-Duty, Industrial

- 1½ in. brass skin-wall tubing is then brazed on in place of the piece cut off at the neck. This piece of tubing is then indented by means of a simple brass die in order to furnish a retaining groove for the automotive crankcase breather cap.

This replacement provides a marked increase in the efficien-

cy and life of the Continental motor used in the Townmotor equipment. In these motors there is a tremendous amount of blow-by, or oil fumes coming from the crankcase under high pressure, that is not allowed sufficient passage to escape in the small breather tube inserted into the valve chambers. There

is no provision made for the fumes to escape through the oil filler tube, as it is sealed tight when the normal filler cap is fastened on to it. By substituting the automotive breather type cap for the original oil filler cap, the motor is allowed to breathe and expel the fumes in a normal manner.

The presence of these fumes in the motor is the primary cause of the formation of sludge, accumulation of carbon on the exhaust valves and guides, the formation of lacquer on both the inside and outside of pistons and cam faces, all of which contribute considerably to excessive piston ring and bearing wear. The installation of the automotive type filler cap allows these fumes to escape, thereby eliminating the primary cause of excessive wear in the motor."

There has been a great deal of controversy among the members of the Suggestion Committee in regard to this particular suggestion and I would like to have the opinion of a distinguished, unbiased person as to whether or not the crankcase breather cap is beneficial to the engine.

In my opinion the idea is very good and I suggest you make the change.

When the engine is in good condition very little blowby is present. As the engine wears

CONTINUED ON PAGE 144

Installed in a jiffy

WITH SUBSTANTIAL PROFIT

EVERHOT

COPPER
GAS & OIL LINES

Original Equipment
for FORD, CHEVROLET
and CHRYSLER CARS

DEALER
METAL DISPLAY
ASSORTMENT NO. 476

Depend on this selected group of popular Copper Fuel and Oil Lines for time- and money-saving installations. Every line assembled complete with fittings, and flared to original equipment specifications.

Attractive metal hanging rack advertises and dispenses your biggest-demand rigid lines . . . helps you sell service.

Colorful dealer metal display assortment
contains 26 popular copper gas and oil lines for Ford, Chevrolet and Chrysler cars, with brilliantly colored metal rack combining maximum wall display and convenience in selling.

LIST PRICE	DEALER PRICE
\$15.50 EACH	\$9.95 EACH

ORDER FROM YOUR JOBBER

EVERHOT PRODUCTS CO.

MEMA MEMBER
2001-9 W. CARROLL AVE., CHICAGO 12, ILLINOIS
1511 W. SEVENTH STREET, LOS ANGELES 14, CALIF.



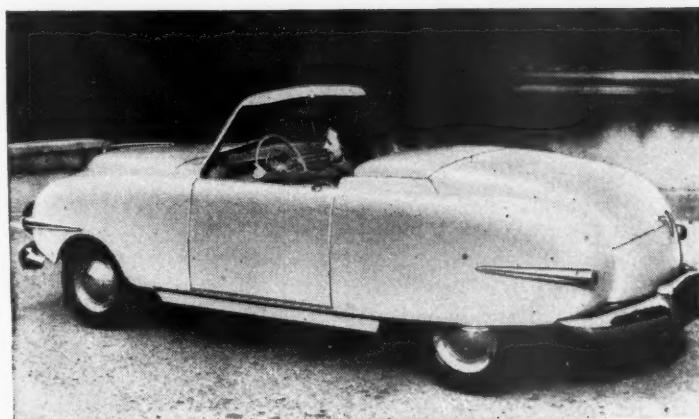
"If you think this is heaven, I know where there is a two hour parking zone."

PLAYBOY invites franchise negotiations....



The car with the all steel convertible disappearing top.

*Distributor and dealer franchises
now available in various territories . . .*



A limited number of distributor and dealer franchises available. For further information write executive offices

PLAYBOY MOTOR CAR CORP.

FACTORY AND EXECUTIVE OFFICES

2450 KENMORE AVE., STATION B, BUFFALO, N. Y.

**STURDY CONSTRUCTION
UNUSUAL CONVENIENCE
NEAT APPEARANCE . . .**



**READY-MADE
SHOP EQUIPMENT OF STEEL**



Fig. 1855

"HALLOWELL" TOOL-TOTER OF STEEL—may be had with rubber-tired casters.

The "Hallowell" Tool-Toter of Steel is welded throughout and equipped with free-rolling casters. It enables you to keep your tools with you as you move from job to job. The steel drawers, as shown, can be locked . . . just in case. Available with two drawers, as illustrated . . . with one drawer . . . or without drawers, depending on your needs.

"HALLOWELL" WORK-BENCH OF STEEL—may be had with or without drawers, end-pieces, or lower shelves.



FIG. 732
PAT'D-PATS. PEND
DRAWER EXTRA

The sturdy, ready-made "Hallowell" Work-Bench of Steel stands firm without costly bolting to the floor. It is made in a number of standard heights, widths and lengths . . . which can be hooked up to make several hundred work-bench combinations. Unlike wooden benches, "Hallowell" Benches can be moved and re-arranged easily, and joined end-to-end to form a continuous work-bench. "Hallowell" Benches have steel tops . . . are also available with smooth, laminated wood tops; or steel tops covered with "Tempered Preswood." Write for your copy of the "Hallowell" Catalog.

Ask us for the name and address of your nearest "Hallowell" Industrial Distributor.

OVER 45 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PA. BOX 560

BRANCHES BOSTON - CHICAGO - DETROIT - INDIANAPOLIS - ST. LOUIS - SAN FRANCISCO

Readers Clearing House

CONTINUED FROM PAGE 142

and rings become worn, the blowby increases. I feel certain longer engine life and less trouble with valves will be experienced.

Steering Trouble on 1948 Fords Over 50 M. P. H.

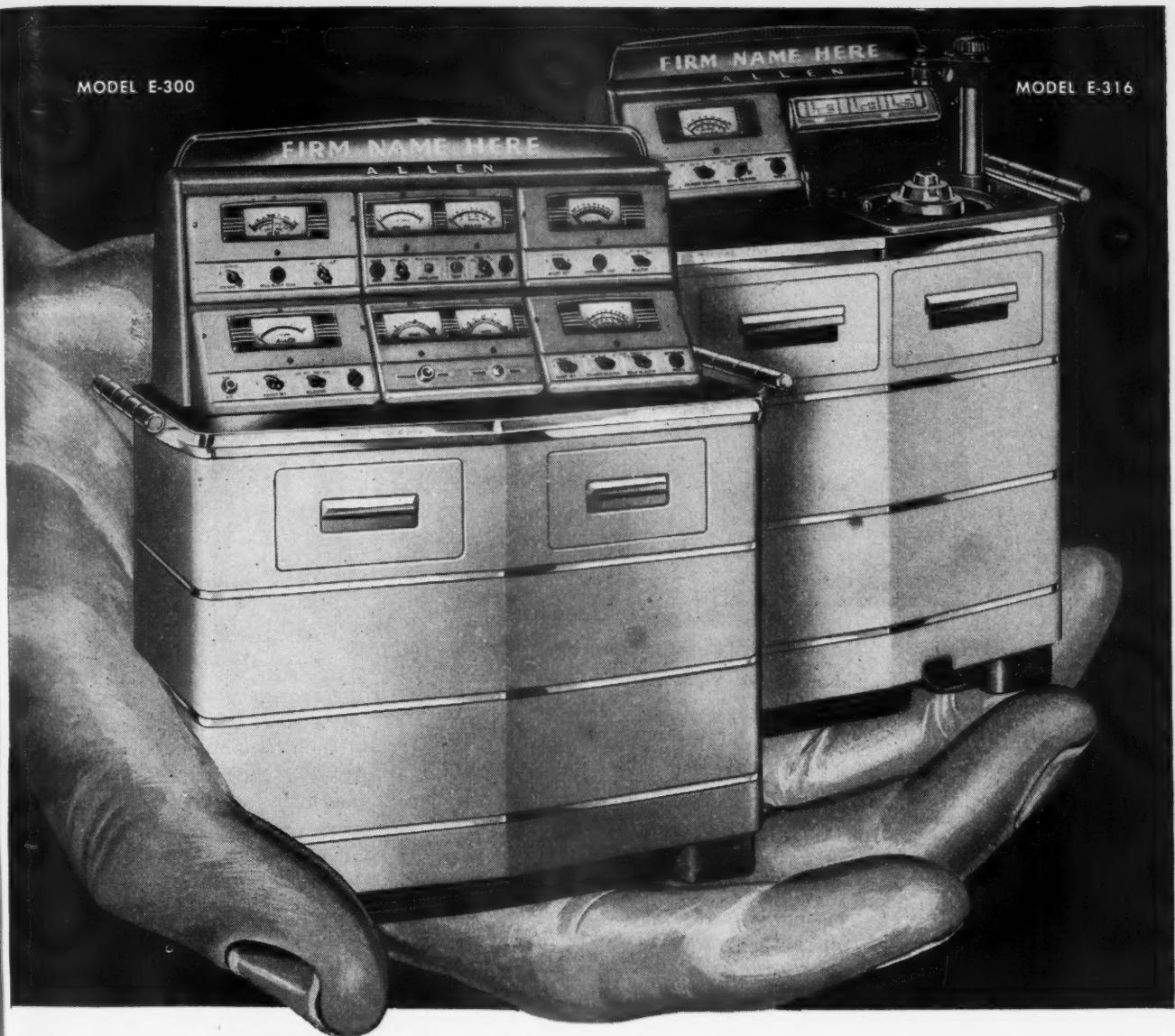
I have several 1948 Fords that I cannot make stay on the road from 50 mph on up. The cars are new. I have checked them from stem to stern and find nothing wrong anywhere. If there is a little wind it is much worse. I have done to some of them as follows: checked all shocks, steering gear, radius rod ball, caster, camber, and toe-in. I balanced all 5 wheels and tires, then checked the turning radius. Proper air pressure was in the tires.

Can you help me in this unusual case? Ted Pinkel, Bear Scientific Garage, 1103 Washington Avenue, Alpena, Michigan.

On your 1948 Fords that are giving steering trouble after 50 mph. Assuming the adjustments are correct, the first thing to do is to disconnect the drag link and check king pins for binding, as a tight knuckle could cause this condition. Also re-check the caster once more as this is most important at high speeds. I would also adjust the steering worm and sector, removing all backlash.



— BEARLEY
"Now are you convinced that the garageman knows what he's doing, dear?"



ALLEN gives you the best in Tune up Equipment

The new Motor Analyzer and Syncrograph are the finest that Allen has ever produced... easier to use, more accurate, more beautiful than ever. Send the coupon below for complete information today or see your jobber's floor sample.



Ultra Modern Appearance, Indirectly lighted instruments and firm name signs. Battery operated with built-in trickle charger.



Allen equipment is simpler to operate, easier to understand. Test leads are color coded. Personal instruction by factory trained engineers included. With Allen equipment you can make any known field test—easier, quicker and more accurately.



All voltage and current regulators tested with only two connections.



All known factors of battery and magneto ignition coils and condensers accurately tested either on or off vehicle.



Fuel pump tested for pressure, vacuum and capacity with engine operating, an exclusive feature.



Gas analyzing bridge located in tail pipe sampling gun, eliminates hose connections and greatly speeds analyzer response. Cold drafts do not affect accuracy.



Syncrograph tests distributors on or off vehicle. 3000 distributor specifications listed. Cam angle reading on good distributors not affected by varying distributor speed.

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ELECTRIC and EQUIPMENT COMPANY

2131 NORTH PITCHER STREET



Motor
Testers
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KALAMAZOO, MICHIGAN



Welding
Equipment
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ALLEN Electric and Equipment Co.
2333 North Pitcher St., Kalamazoo, Michigan.
Please send me complete information
on the Model E-300 and Model E-316.

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Address _____

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The Complete Carbon Remover

HARCO CARBOSOLVE



Other Cleaning Products
by



GREAS-OFF — the all-purpose degreasing solvent. Brush it on — hose it off.

CAR WASH — a revolutionary, non-alkaline formula. Saves time — requires no wiping.

DRIVEWAY CLEANER — a quick action powder, compounded for fast, easy cleaning.

GREEN BAR SOAP — safe and economical.

Compounded after extensive research it contains the three reagents most adaptable for degreasing and digesting necessary to do the outstanding cleaning job your customers

should get. No product on the market today can match its triple action.

Because of the extreme activity of these solvents, a heavy top layer of liquid prevents evaporation and washes the solvent off the metal as it leaves the container.

Especially effective for carbon, stain and paint removing on carburetors, fuel pumps, pistons, rods, valves, die castings, cylinder heads, superchargers and paint guns.

Contact your supplier, or write us direct for further details of HARCO CARBOSOLVE and the complete HARCO line.

HARLEY SOAP COMPANY

Pierce and Orthodox Sts., Philadelphia 37, Pa.

KEEP THE BUSINESS CLEAN

Universally Used and Approved



LICENSE PLATE CLIP

75c each

60c
in lots of
12 or more.

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Immed. Del.

- Will Not Rotate and Fall Off
- Bright Cadmium Rust-proof Finish
- Strong Tension Springs, Double Loop Ends
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Guaranteed by Manufacturer
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Illuminated
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mobile Compass
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STREAMLINE
Marine Compass
List Price \$2.75

BIG MONTHS AHEAD

for HULL COMPASSES

Every advance sign indicates this Summer will be the most extensive, most highly financed vacation period the nation has ever known. Vacations mean travel (by automobile and boat). And travel means sales for Hull Automobile and Marine Compases. How do we know? Hull Compases will get their share of this peak Summer business? Hull has enjoyed top preference among motorists and boat owners for 15 years. There is still time for you to place your order and supply your trade with these reliable vacation guides.

(MAIL COUPON)

HULL MFG. CO.

P. O. Box 246-MA6, Warren, Ohio
Send me information and prices on the
Hull Automobile Compass.

NAME

Check: Dealer Chain Store Jobber

STREET

CITY _____ STATE _____

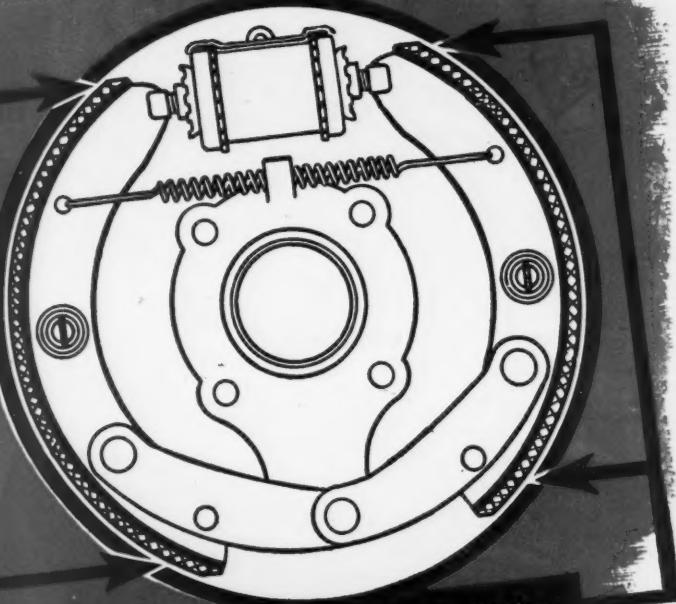


Barrett Says:

**YOU'RE SURPRISED
AREN'T YOU?**

The human hair is approximately .002" to .004" thick (2 to 4 thousandths)

This Popular Brake requires .005" clearance between lining and drum. (5 thousandths)



This clearance must be accurate to less than twice the thickness of a human hair.

THE BARRETT BRAKE DOKTER

CORRECTS FOR improper adjustment, centralization, worn or bent anchors, bent shoes and backing plates, and high spots on lining—brake lining thickness itself often varies up to .010".

CURES Brake Noises, Diving, Side Pull, Hard Pedal, Lack of Pedal, Chatter.

ELIMINATES need for furnishing the customer the usual first free adjustment.

The Brake Dokter Method Is The Only Way To Insure Safe, Perfect Brakes!

Ask Your Jobber to Demonstrate on Your Toughest Job

OR WRITE US DIRECT



BARRETT EQUIPMENT CO.
The World's Finest Brake Service Equipment
TWENTY-FIRST AND CASS • ST. LOUIS 6, MO.



Third Round Increases Hit Car Manufacturers

The third round of wage and price increases is well on its way in the automotive industries. Following the General Motors settlement at a figure considerably higher than the industry generally expected, Chrysler, Nash, Packard, Hudson, Kaiser-Frazer, Studebaker, Willys and Briggs settled for a flat 13 cents an hour wage increase. It is

significant that to date not a single company has followed the GM "cost of living formula" which allows wages to rise and fall in accordance with the BLS index. The K-F agreement is the only one that differs significantly from the others in that it establishes a social security fund to replace the \$5 per car bonus plan previously in effect. The bonus plan is estimated to have cost K-F about 3.6 cents per hour. Under the new agreement

the company will pay 5 cents an hour for each hour worked by employees covered in the agreement into a social security fund. A board composed of company and union representatives is reviewing plans for setting up hospitalization, sick, and accident benefits; prepaid medical service; life insurance, and other social security benefits. The added cost of the new plan together with the 13 cents an hour raise brings the total cost to K-F to 14.4 cents an hour. In addition to hourly rate increases, the automotive companies also are granting raises to salaried personnel amounting generally to about a 9 per cent increase. The inevitable result of the general rise in wages already has resulted in price increases. Packard has raised prices of its cars by \$75 to \$200. Nash also has raised prices \$75 to \$90. Prices of the 1949 model Ford are up 8.7 per cent, which is said to be higher than originally planned because of anticipated higher wage costs resulting from the industry pattern. General Motors has not yet raised automobile prices, but has increased GMC and Chevrolet trucks. In the Chevrolet line trucks and commercial chassis are up \$45 to \$95 with corresponding increases on cabs, boxes, commercial bodies, and similar equipment. The increase in the GMC line ranges from \$10 on smaller chassis to \$110 on the largest units. Hudson did not immediately raise prices, but it was a foregone conclusion that such an action would come shortly.

GEM
JEWEL-LIKE FINISH
Super Chrome Plated
HOOD ORNAMENTS

For CHEVROLET
1946-47-48
Transparent flash or torpedo
in chrome, magic glow or red
color, set in heavy metal
ring. Lifetime super chrome
plate with beautiful jewel-
like finish. Specified.
No. 330 Series, Chev. 1946
No. 350 Series, Chev. 47-48

BUICK 1942-48
Brand new design with
cross bar to give added
strength. Heavy shaft proof
cannot be broken or
stolen. Lifetime Super
Chrome Plate.
No. 362 Fits all Buicks,
1942-48 inclusive.

PANTHER DESIGN
Rich looking ornament
for the larger cars. Fin-
ished in Super Chrome.
Length 9 1/2 inches.
No. 204

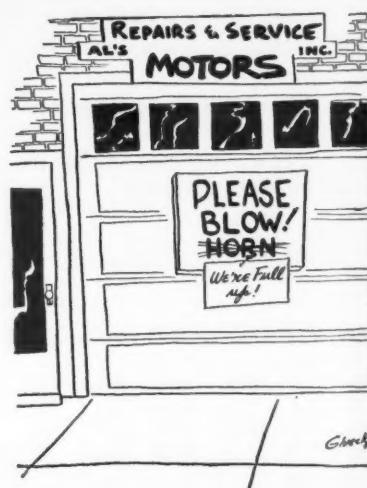
BUCKING RAM
Beautifully modeled in
lifelike design. Fin-
ished in Super Chrome
Plate. Length 7 1/2
inches. No. 205

GREYHOUND
The always popular grey
hound in new like design
and finished in Super
Chrome. Length 9 1/2
inches. No. 202.

Universal Hood and Fender Mount.
Available in Chrome Torpedo — Magic
Glow — Red transparent plastic in Flash
or Torpedo. No. 410 Chrome Torpedo

Many other numbers avail-
able—write for New Catalog

GEM
MANUFACTURING COMPANY
1930 S. STATE ST., CHICAGO 16, ILL.





HERE'S A PICTURE
OF A MAN SELLING ...

- ✓ BULBS
- ✓ SEALED BEAM UNITS
- ✓ BATTERIES
- ✓ SWITCHES
- ✓ FUSES
- ✓ REFLECTORS
- ✓ WIRING JOBS
- ✓ HEADLIGHT ADJUSTMENT
- ✓ REPAIR JOBS

AT THE SAME TIME ...
CREATING
CUSTOMER
GOOD WILL

AND MAKING
"BEAR
THE BANNER
OF SAFETY"
Pay!



BEAR
THE BANNER
of
SAFETY

M2690

JULY, 1948



Bear Headlight Tester No. 555

The BEAR "555" Headlight Tester is one of YOUR BEST SALESMEN!

Not only do you make a nice profit by offering dependable, accurate headlight tests—but with the Bear "555" Headlight Tester, you really CASH-IN on the BIG "Bear the Banner of Safety" Program, with the extra parts and services the "555" sells for you!

With more than 60% of the cars on

the road today in need of headlight testing, it PAYS YOU to "Bear the Banner of Safety"... the market is "wide-open" for this *extra profit* service. Ask your Bear Jobber about the 7 extra features of the Bear "555" Headlight Tester or write direct to BEAR MFG. CO., Dept. M-1, Rock Island, Illinois.

BEAR SAFETY SERVICE Nationally Advertised POST

When writing to advertisers please mention Motor Age

K-17 Blackhawk Jack

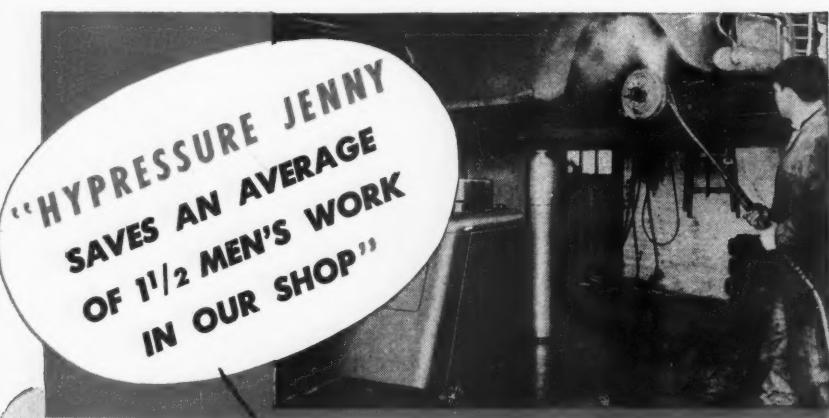
Known as the J-17 Lift-Post, a "portable life" hydraulic jack, of 1½ ton capacity, has been announced by the Blackhawk Mfg. Co., Milwaukee, Wis. The J-17, which wheels to the job, is said to offer fast lifting equipment for tire and wheel changes, body and fender work, chain installation, brake work, emergency road service and many other jobs. This jack has a hydraulic

lift of 18 inches, a toe adjustment of 21 inches, and the lifting toe has a special hook to fit bumpers with holes or slots.

K-18 Ansul Catalog

Charts showing the characteristics of approved hand fire extinguishers and the comparative effectiveness of approved ex-

tinguishers on flammable liquid fires are features of a new catalog recently issued by Ansul Chemical Company, Marinette, Wisconsin. The 20-page catalog illustrates and describes the complete line of Ansul Dry Chemical Fire Extinguishers. Included is a pictorial explanation of the action that takes place when Ansul Dry Chemical comes in contact with flame.



Hypresure Jenny cleans instantly . . . thoroughly . . . economically. It flushes oil, dirt and grease from motors and chassis in 10 to 15 minutes . . . removes dust, bugs and leaves from grill work . . . flushes radiators . . . cleans wheels and springs . . . prepares cars for under-coating. And Hypresure Jenny does it 10 times faster than you can do it by hand. That means time saved, more business, more profits.

Hypresure Jenny steam cleaning before repairs cuts repair time almost in half by saving the time your mechanics usually lose wiping dirt and grease from tools and equipment. Hypresure Jenny further reduces shop labor and expense by cleaning grease racks, pits, equipment, floors, walls, windows, skylights, etc. Truly, Hypresure Jenny will save the time of 1½ to 2 men in any busy shop.



HYPRESURE JENNY, the original and leading steam cleaner, is sturdy . . . compact . . . portable . . . easily moved from job to job. It is economical . . . simple to use . . . ordinary labor can operate it.

MAIL TODAY

Fill out this coupon for FREE SURVEY of your cleaning requirements and estimated savings per year from Hypresure Jenny Steam Cleaning.

HYPRESURE
JENNY DIVISION

HOMESTEAD VALVE
MANUFACTURING CO.

"Serving Since 1892"
Coroopolis, Penna.

REQUEST FOR SURVEY

Hypresure Jenny Division
Homestead Valve Manufacturing Co., P.O. Box 95G, Coroopolis, Pa.

We employ mechanics on repair work.
We overhaul or recondition . . . cars, trucks, buses each month.
We paint . . . cars, trucks, buses each month.
We're interested in cleaning floors, walls, windows, . . .
We wash approximately . . . cars, trucks, buses each month.
Based on above facts, please show us the savings or extra profit HYPRESURE JENNY can produce.

Company

By Title

Address

City State

K-19 Fiber Block Lining

The Southern Friction Materials Co., of Charlotte, No. Carolina, has announced its entry into the molded brake lining field, with a new lining, referred to as "Fiber Block." This product is to be offered in sets for specific cars only. Advantages claimed for this barke lining are (1) complete uniformity, (2) high mechanical strength, (3) generous quantities of metal friction stabilizing particles well interspersed, and (4) resilience. The manufacturer states that the consumer will benefit not only because of the superior braking qualities of the product, but also because of the low cost, and the resilience.

For further information use coupon on page 66.



"In my day kids didn't hang around garages bothering people—we hung around poolrooms!"

WHITAKER "707" SPARK PLUG CABLE

**PROVEN BEST
BY SERVICE TEST!**

You and your customers both gain when you install Whitaker Cables.

The new "707" is a rugged, wear-resistance 7 copper strand, 7 mm. spark plug cable, protected by an armoring sheath of neoprene. It's 7 ways better to give the greatest service satisfaction ever found in any spark plug cable.



FLASH-WELD BATTERY CABLES — another Whitaker Engineering Achievement

The perfect cable-to-terminal connection . . . FLASH-WELD is not a crimp . . . not soldered . . . but a terrific high amperage electric weld that fuses cable and terminal into one solid conductor. Exclusive on all Whitaker Insulated Battery Cables and Braided Ground Straps.

WHITAKER

CABLE CORPORATION

Pioneers and Leaders in Automotive Cable Products Since 1920

KANSAS CITY, MO.
ST. JOSEPH, MO.
PHILADELPHIA
LOS ANGELES

K-20 Imperial Flaring Tool

The new Hi-Duty Flaring Tool has been recently announced by the Imperial Brass manufacturing company, Chicago, Ill. Advantages claimed for their new product are faster operation, better flares, greater compactness, and elimination of scoring of the tubing. The tool is designed to flare soft copper, brass, and aluminum tubing for S.A.E. flare joints in $\frac{1}{4}$ inch, $\frac{5}{16}$ inch, $\frac{3}{8}$ inch,

inch, $\frac{1}{2}$ inch, and $\frac{5}{8}$ inch O.D. sizes. In place of the usual bar it has a new die holder with sliding dies for clamping the tubing. There is only one thumb screw at the end to tighten, and friction is reduced through the use of a ball thrust bearing. The yoke slides directly over the end of the die holder without twisting or turning into position over the tubing to be flared. The die assembly is made of heat-treated steel.



DRILLING



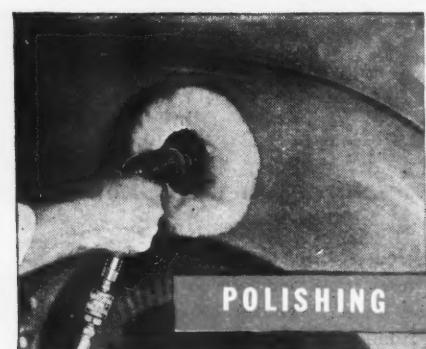
SCREW DRIVING



RIGHT ANGLE
NUT SETTING



HIGH SPEED
GRINDING



POLISHING

USE A JOB-FITTED TOOL

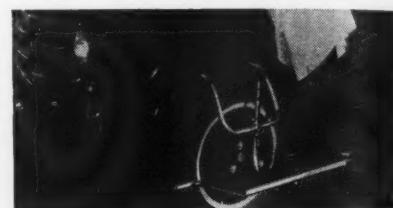
In everyday jobs like these, and others in automotive shop service ... use the *right* tool for each type of work! Always use ARO ... big power ... light weight ... small size. Also available in compact ARO Kit with 7 complete tools. Ask your Aro Jobber. The Aro Equipment Corporation, Bryan, O.

ARO AIR TOOLS

When writing to advertisers please mention Motor Age

K-21 Miller Truck Stand

The Miller Mfg. Co., Detroit, Mich., has developed a practical answer to a truck service problem with a steel step plate that hangs on the front wheel tire of any make or size of truck. It is said to need no adjustments or clamps to fit all sizes of truck tires and all makes and models of trucks. This product is de-



signed to eliminate any further use of unsightly and cumbersome wooden boxes and benches now used to raise a mechanic to efficient working height, by providing a wide working platform that is said to support the heaviest mechanic even when standing on one corner of the step plate and lifting a cylinder head in place. The manufacturer is merchandising its new product under the tool number DD-948.

For further information use coupon on page 66.

Paul Johnson Elected Head of Sealed Power

Paul C. Johnson has been appointed executive vice-president of Sealed Power Corp. Johnson, who had been vice-president in charge of sales, succeeds Neal A. Moore who resigned as vice-president and general manager after more than 20 years service.

Cadillac Establishes California Branches

Cadillac Division of General Motors is the latest automobile builder to reduce further the number of its distributors. It will establish factory branches in California to replace the Don Lee organization which has been Cadillac's distributor in that area since 1911. Branches will be set up in four cities.

"3 BIG REASONS MY CUSTOMERS PICK **INLAND TIRES** OVER ALL OTHERS"

1. "IT'S A BETTER-THAN-ORDINARY TIRE."

It sells itself. One look tells my customers that the Inland Heavy Service Tire has the 'guts' to take it . . . to deliver the kind of mileage, safety and comfort they want. The quick-stop, sure-stop, 8-rib tread Inland's exclusive Cool-twist* heat-fighting rayon cord . . . and the extra-strong, tough, live-rubber carcass all add up to a tire that can't be beat.

2. "IT'S WARRANTED FOR 15 MONTHS."

The real sales clincher is the written warranty I give with every Inland Heavy Service Tire. It's one of the strongest, fairest warranties in America...15 months of full coverage against all road hazards—no mileage limit. My customers go for this extra protection.

3. "AN ADJUSTMENT PLAN THAT'S FAIR...AND QUICK."

If anything happens to an Inland tire, I take care of my customers fair and square . . . with no delay, no red tape. I'm the boss and Inland stands behind every decision I make. That kind of a deal sells plenty of Inlands for me.

INLAND RUBBER CORPORATION
Tire Builders Since 1913

*T. M. Inland Rubber Corporation

Subsidiary of the 3 M Company



Find out today how
you can start selling
Inland tires. Mail
this coupon now.

INLAND

INLAND RUBBER CORPORATION
146 W. 27th Street, Dept. M47 Chicago 16, Illinois
Please send me complete details about the
new Inland Franchise opportunity.

Name _____

Address _____

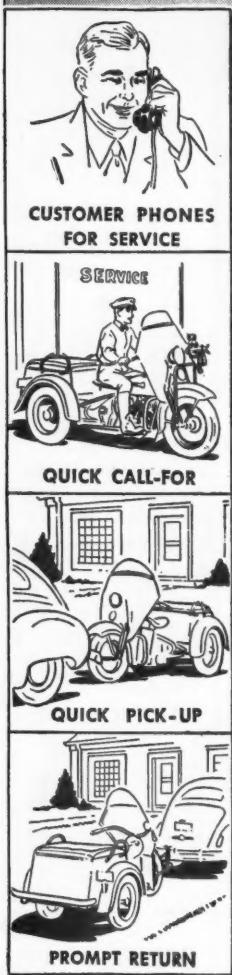
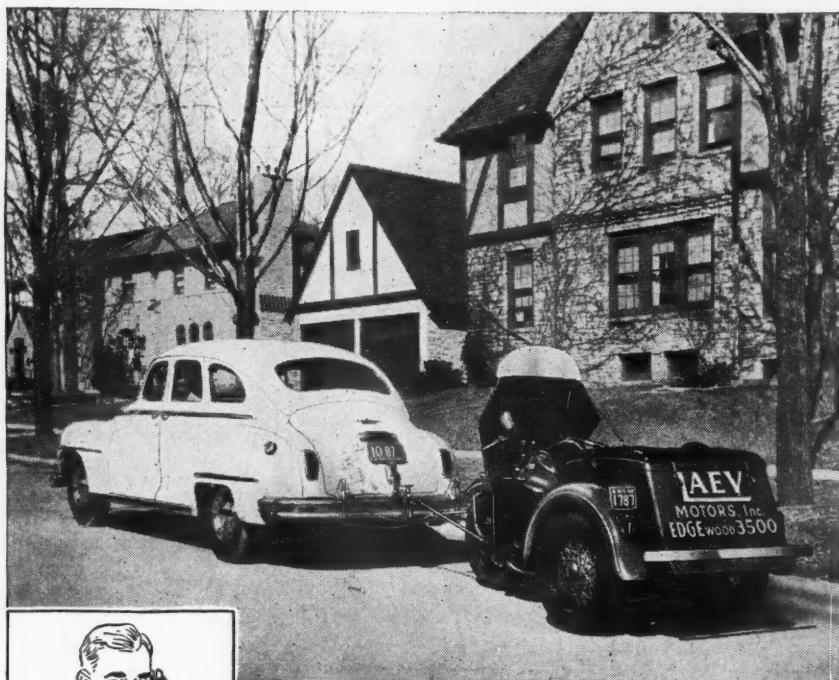
City _____ State _____

County _____

Car Owners Won't Drive Miles for Service!

Bring them in with

SERVI-CARS



YOU may do the best repair work in the city, but if competitors offer faster, more convenient service, they get the business. People won't go out of their way these days!

That's why thousands of dealers are using Servi-Cars. With these all-around business-builders, you not only safeguard your present repair volume and customer good-will, but get and hold the new customers you must have for assured profit and progress. In many other ways, Servi-Cars are real money-makers: they help to regulate work-flow, keep valuable mechanics busy, save time in part and accessory pickups, advertise your business and your service wherever they go.

Dealers everywhere have found that Servi-Cars quickly pay for themselves. Get the jump on your competitors — phone your Harley-Davidson dealer for a demonstration today. Write for illustrated folder that points the way to new profits in selling your service.

HARLEY-DAVIDSON MOTOR CO.
DEPARTMENT MA • MILWAUKEE 1, WISCONSIN

Rubber Workers Accept 11-Cent Wage Increase

An eleven cent hourly wage increase apparently is to be the pattern in the rubber industry. Firestone Tire & Rubber Co. has concluded an agreement with the URW-CIO covering employees in seven states. It is believed that other major rubber companies will settle on a similar basis. There is no indication yet as to whether the price of tires and other automotive rubber goods will be increased, but it is believed that such is likely to be the case in view of the diminished earnings of the rubber companies during the past several months.

New Ford Fuel Economy Aided by Lower Weight

Much of the improved fuel economy of the 1949 Ford undoubtedly is due to the greater horsepower-to-weight ratio. The car is more than 200 pounds lighter than its predecessor model despite the fact that its inside dimensions are much greater. Harold Youngren, Ford engineering chief, said recently that the car is lighter because of more efficient design. He said the tread was narrowed to a uniform 56 inches to fit in with the advanced styling and to provide better tracking.



"Here, my man! Now don't spend
it on....."



FOR EVERYTHING IN BEARING SERVICE

Ask Your Federal-Mogul Jobber!

Available to you through your Federal-Mogul jobber is our 100% complete line of almost 7,000 numbers—the only line of service bearings that takes care of your every need, no matter how unusual, and including those real old-timers!

Each year our six modern manufacturing plants turn out millions of bearings under strict control for quality and accuracy. Our warehouses across

the nation maintain complete stocks so that your Federal-Mogul jobber can give you prompt service. That means you make just one call for ALL of your service bearing requirements—ask your Federal-Mogul jobber!

FEDERAL-MOGUL SERVICE • COLDWATER, MICH.

Division of Federal-Mogul Corporation

When Performance Goes up in Smoke



Replace in Sets with Genuine
FEDERAL-MOGUL
Oil-Control Bearings



*The Complete Line—
Almost 7,000 numbers:*

- Engine Bearings • Bushings
- Connecting Rod Exchange
- Reconditioned Connecting Rods • Rebabbitted Connecting Rods • Connecting Rod Bolts and Nuts • Bearing Metals
- Laminated Shims • Solders

Important! memo to all Equipment Manufacturers:

Reserve your display space NOW for the National Automobile Dealers EQUIPMENT EXHIBITION held simultaneously with NADA's 1949 Convention

January 24th-27th
San Francisco
California

Be sure that you'll have exhibit space to tell and sell your story to the thousands of convention-going NADA Dealers and Service Men in San Francisco. America's leading automotive dealers attend this annual convention to see the latest developments in automotive equipment. Make sure your products are represented!

write today to:

Ray Chamberlain
Exhibit Manager
Room 200
Civic Auditorium
San Francisco, Calif.

Union Gets Wage Guarantee From Automotive Supplier

Although the UAW-CIO has run into a stone wall at all major automobile companies with demands for guaranteed annual wages, it has gained that objective in one contract with a parts supplier. Metal Moldings Corp. of Detroit has concluded an agreement with the union guaranteeing all employees with 10 or more years seniority, 50 weeks work each year at regular hourly rates. The contract also grants a 13½ cent increase across the board, plus 3-weeks paid vacations for the 10-year seniority employees with pay 20 cents over the regular hourly rate while on vacation.

Car and Truck Exports Fall Behind Last Year

Tightened dollar exchange in foreign countries has resulted in passenger car and truck exports dropping below the level prevailing early last year. During the first four months of 1948, 80,317 cars were exported, compared with 86,163 during the same period of 1947. Latest countries to ban imports of American passenger cars are Singapore and the Federated Malay States. Argentina and Sweden took similar action a few months ago. Truck exports are down sharply from 93,791 the first four months of last year to 72,558 units during the same period of 1948. Passenger car exports this year represent 6.5 per cent of total car production, and trucks about 15.2 per cent.

Classified Advertisements

MALE HELP WANTED. To call on garages, filling stations with \$24.50 quality wheel balancer. Competing models \$300 to \$2000. Virgin market. Five minute demonstration means sales. \$10 cash commission. Twenty sales per day possible. Exclusive territory. Write A. L. Brown, B. & B. Mfg. Co. Box 10-816, Sioux City, Iowa.

SALES MEN carry line of custom made seat covers to automobile dealers. All territories open. Commission basis. Write BAY RIDGE AUTO SEAT COVER CO., 6324 4th Ave., Brooklyn, N. Y.

Try **GUMOUT** in your car FREE!

94 out of every 100 who try Gumout become regular users!

That's why we invite you to write for your pint can—free! When you receive it, simply pour Gumout into the tank of your car with ten gallons of gas.

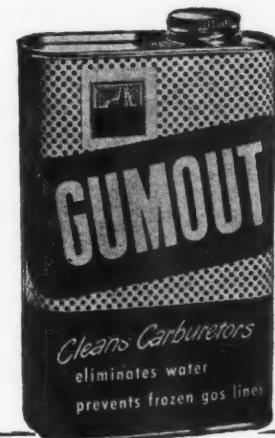
You'll be delighted with the results.

Gumout cleans carburetor and fuel lines—while you drive. It dissolves harmful gum deposits . . . prevents gum damage. Gumout improves engine performance and efficiency . . . saves up to 10% on gasoline.

Gumout should not be confused with common gasoline additives whose sole function is to absorb moisture and prevent frozen gas lines. Gumout is a highly concentrated gum solvent, composed of 100% active ingredients. It is guaranteed to improve engine performance by keeping carburetors and fuel lines CLEAN.

Write today (on your letterhead) for your free sample. Try Gumout in YOUR car.

Then—on the basis of results—stock Gumout for profitable year 'round sales to your customers.



**Jobber Inquiries
Invited**

PENNSYLVANIA REFINING CO.

2687 Lisbon Road Cleveland 4, Ohio
Butler, Pa. Edgewater, N. J.

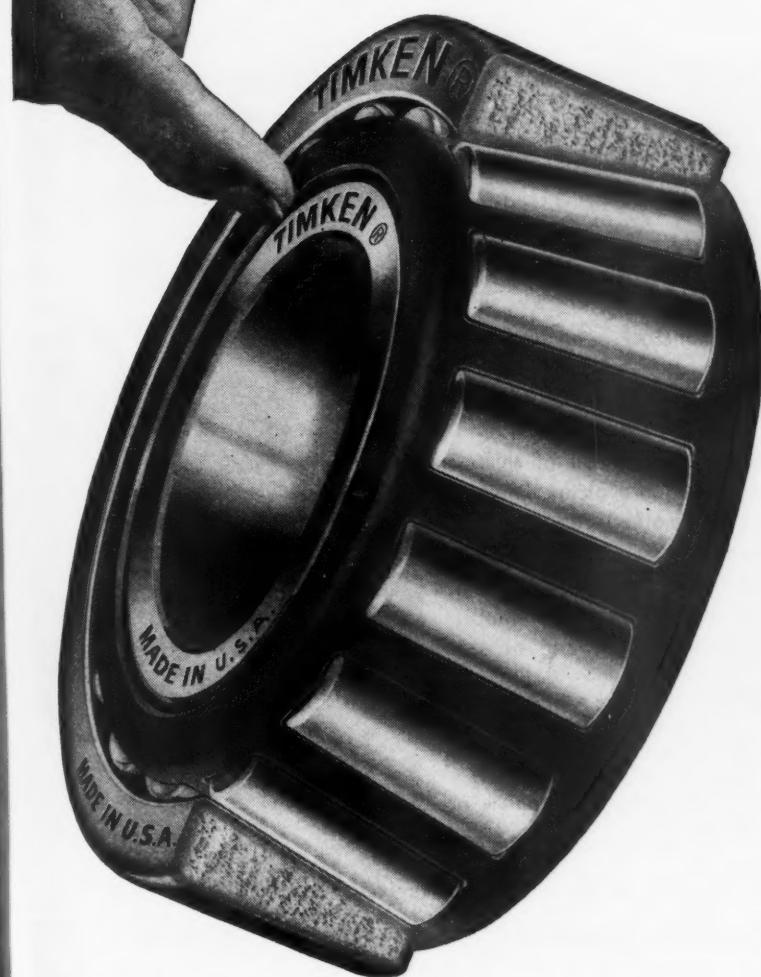
What to do if your customers aren't mind readers

Of course you know you give your customers top quality workmanship and materials. But do they know? One easy way to show them is to point out that the trade-mark "Timken" is on every tapered roller bearing you install.

Your customers know that Timken means dependable performance. So why hide your light under a bushel? To point up your high quality service and keep customers happy . . .



... Just tell 'em it's "TIMKEN"®



Because Timken tapered roller bearings insure trouble-free operation, you'll find them on most leading makes of automobiles, trucks and busses. They take any combination of radial and thrust loads, eliminate friction, reduce wear, keep parts in rigid alignment, and normally outlast the vehicle itself!

The Timken Roller Bearing Company is the acknowledged leader in 1) advanced design, 2) precision manufacture, 3) rigid quality control and 4) special analysis steels.

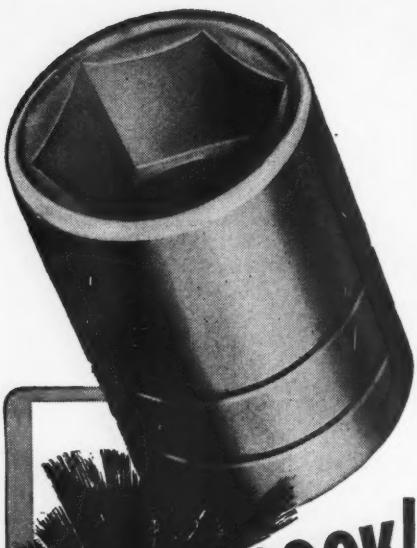
Remember that the quantity of your customers depends on the quality of your service. Make sure the trade-mark "Timken" is on every tapered roller bearing you install. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address "TIMROSCO".

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION



MORE SOCK!
in
PLOMB'S
6-Point Power Sockets

Extra strong—extra tough — these husky 6-point power sockets are designed for those jobs where you literally need "more sock." All owners of $\frac{3}{8}$ " and $\frac{1}{2}$ " drive socket wrench sets should own a complete set of these heavy-duty sockets to supplement their thin-walled 12-point sockets. Purchase of these huskies is a sound investment because it enables a mechanic to handle many tough jobs for which regular sockets are too light.

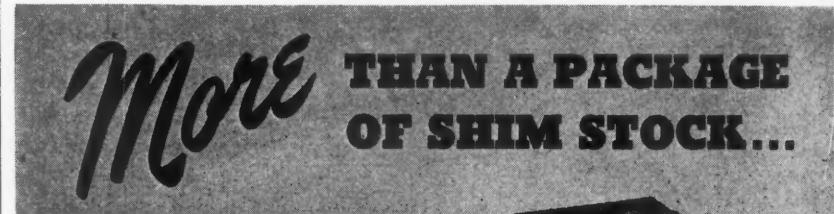
They are suitable, of course, for most power nut-running tools—used to speed production in all types of industry. Buy them today from your Plomb Tool Company dealer.



**San Francisco Automotive Pay Scale
Ranks Among Nation's Highest**

Mildred Haskins, Manager of the San Francisco Motor Car Dealers Association, has made the following study for paying mechanics and other unionized employees in that area.

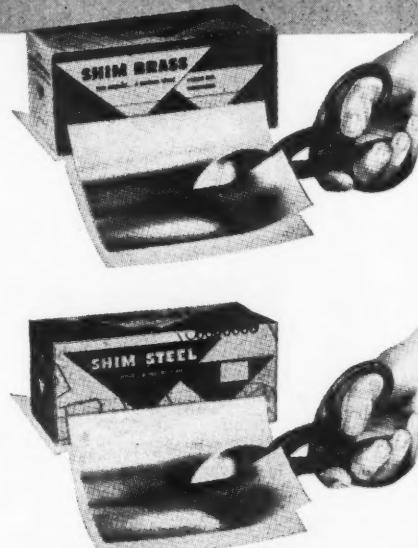
	Per Hour	Per Day	Per Week
MECHANICS			
Automotive & Motorcycle	\$1.92 $\frac{1}{2}$	\$15.40	\$77.00
Mechanics, Welders, Elec. Machinists			
Automotive Machinists, Metal, Body, Fender & Radiator Repairmen	2.05	16.40	82.00
PARTS CLERKS			
Trainee	\$1.14	\$45.60	\$197.60
Warehousemen	1.32 $\frac{1}{2}$	53.00	229.67
Parts Expert—less than 2 years	1.53 $\frac{1}{4}$	61.50	266.50
Parts Expert—over 2 years	1.67 $\frac{1}{2}$	67.00	290.34
Assistant Manager	1.83 $\frac{1}{2}$	73.40	318.07
Manager	1.92 $\frac{1}{2}$	77.00	333.67
DRIVERS & PICKUP MEN			
Carrying capacity of truck 1000 lbs. or less	1.32 $\frac{1}{2}$	53.00	229.67
Over 1000—2500 lbs.	1.38 $\frac{1}{2}$	55.40	240.07
Over 2500—4500 lbs.	1.45	58.00	251.33
Over 4500 lbs.	1.51 $\frac{1}{2}$	60.00	262.60
Extra or temporary employees	\$10.80 per day		
GARAGE EMPLOYEES			
Car Washers			
Car Polishers			
Lubricators			
Tire Service Men	1.51 $\frac{1}{2}$	12.12	60.60
Tow Men			
UTILITY MEN			
Motorcycle Pickup Men	1.41 $\frac{1}{2}$	11.32	56.60
Under Seal Men	1.69	13.52	67.60
PAINTERS			
Journeymen Painters	1.92 $\frac{1}{2}$	14.20	71.00
Sanders & Rubbers	1.77 $\frac{1}{2}$	14.20	71.00



Here is shim stock in handy dispensing cartons, especially designed to save you time, waste and temper.

The desired amount of shim stock is pulled through the slot of the plainly marked carton and snipped... leaving the rest of the precision shim material in the carton, protected and instantly ready for use.

Available in 6 x 100 inch rolls of brass or steel in gauges from .001 to .012 (.015, .020, .025 and .032 packed flat in envelopes, 6 x 25 inches). No marking... the gauges are plainly marked on the containers.



Consult your automotive or industrial distributor.

LAMINATED SHIM COMPANY

INCORPORATED

GLENBROOK CONNECTICUT

LINCOLN

Lubricating Equipment

Is a Lasting Investment

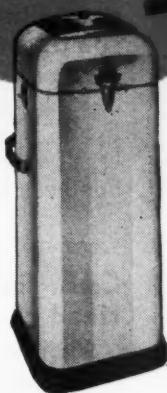
because
Quality is built in!

When you buy lubricating equipment, you're making a BIG investment—it can pay BIG dividends... build profitable business. But be sure you choose equipment that will be a *lasting* investment. Ornamentation can't compensate for a poorly designed pump—the "heart" of any lubricating unit.

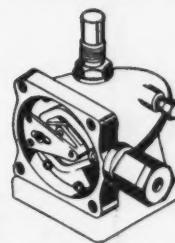
The Lincoln Air-Operated, Single Cylinder Lubricant Pump is years ahead of anything else in the field and will give you troublefree service.

This famous pump is used in every Lincoln High Pressure Automotive Unit and is responsible for the enviable reputation of Lincoln Lubricating Equipment.

A few of the exclusive features of the Lincoln Single Cylinder Airline Lubrigun are shown at right.



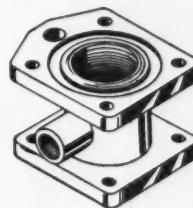
AIR VALVE—
Fully pneumatic.
Positive in action.
No oilers to fill.



AIR MOTOR—Brass
cylinder resists cor-
rosion. No cup
leathers to replace.
Linpak floating disc
gives smooth, posi-
tive action.



PUMP OUTLET
BODY — All-steel
construction. Lasts
for years without
replacement.



PLUNGER and BUSHING—
Honed and hand lapped for
precision fit. Nitralloy steel,
nitrided for long life.



Trade Mark Lincoln and trade names Lubrigun,
Kleenseal, Linpak, Reg. U. S. Pat. Off.



Lincoln is the originator of the Kleenseal Sur-
face Check Grease Fitting—the new, modern
fitting with the ball in the top.



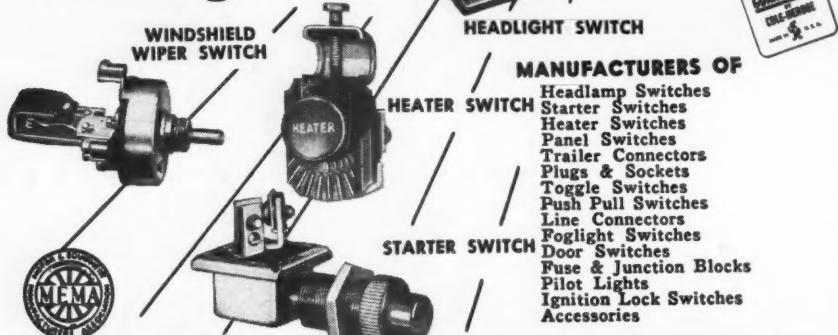
LINCOLN

LINCOLN ENGINEERING COMPANY
Leaders in Lubricating Equipment for a Quarter Century
5701 NATURAL BRIDGE AVE., ST. LOUIS 20, MO.

A48-22

A Replacement by COLE-HERSEE.

Restores original
equipment to
Leading Cars



Swift Elected President Of Saginaw Industries

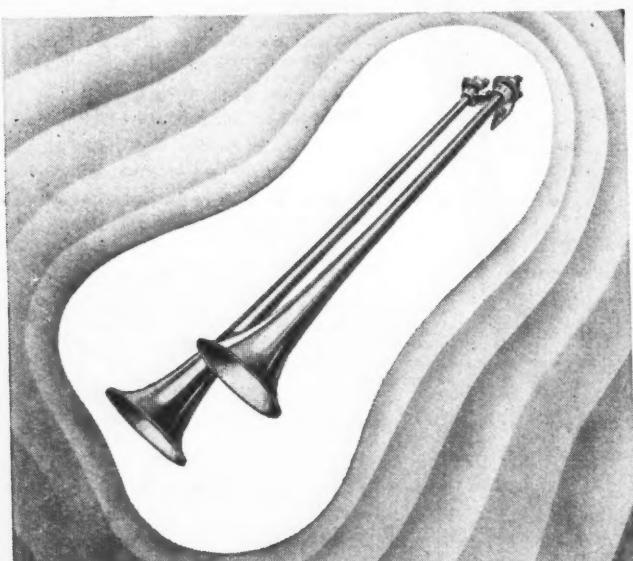
Saginaw Industries of Saginaw, Michigan, have announced the election of Gene Swift to the Presidency of the Company, succeeding Rudolph Beuthin. Swift has been with this company for over twelve years.

H. C. Hosfield Appointed Sales Manager For Lynn

Lynn Products Company, Chicago, Illinois, announces the appointment of Mr. Harry C. Hosfield as Marketing and General Sales Manager. He succeeds Mr. F. W. P. Jackson who has entered the automotive jobbing business in Jacksonville, Florida.

C. R. Redhead Named Sales Head of Black Mfg. Co.

Charles R. Redhead, for three years manager of the company's Cleveland office, has been appointed General Sales Manager of The Black Manufacturing Company, Baltimore, Md.



"I Make \$30 Profit per Sale—25 Sales per Month with BUELL AIR HORNS"

So reports one dealer in Houston, Texas. These exclusive sales clinchers helped make this record.

- Controlled Volume for city driving.
- Five-mile carrying power for emergencies.
- Automatic Air Supply as standard equipment.
- Permanently tuned sound units.
- A guarantee on all Buell equipment.

This is the peak season. Write for the facts on how you can cash in on today's most profitable accessory.

ON THE AIR—WLW CINCINNATI
BUELL MANUFACTURING COMPANY
919 West 49th Place, Chicago 9, Illinois, Dept. 4

EVERYWHERE IN THE U.S.

There isn't a state in the Union that doesn't have Automotive Service Shops depending on Niehoff ignition products. Niehoff Ignition Products are built, tested and inspected to insure not just satisfactory, but superior performance regardless of whether the climate is hot, cold, wet or dry. Remember, there's a Niehoff jobber near you . . . get in touch with him today.

C. E. NIEHOFF & CO.
4920 Lawrence Ave., Chicago 30, Ill.

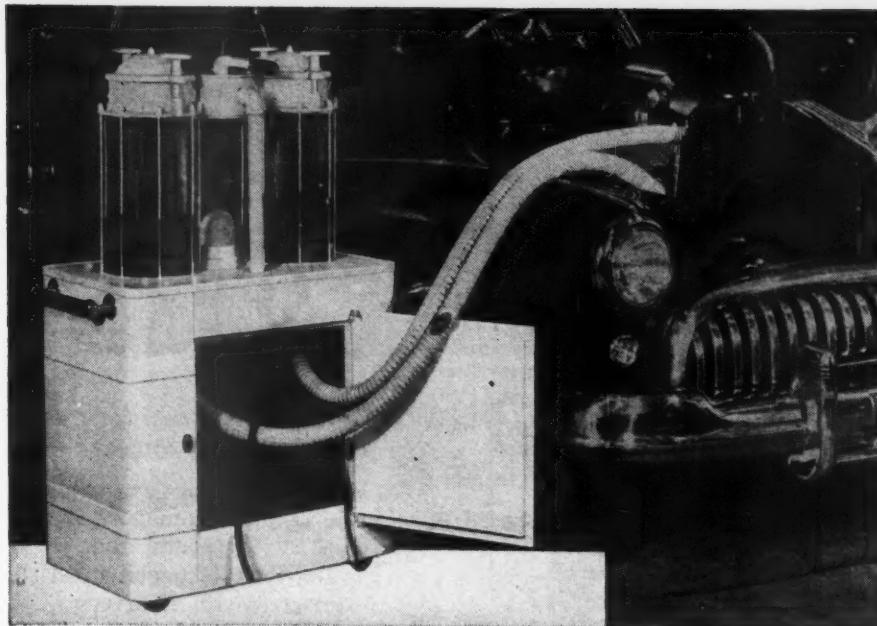
BRANCHES: Boston 34, Mass., 254 Brighton Ave.;
Los Angeles 15, Calif., 1330 W. Olympic Blvd.;
New York 19, N. Y., 250 W. 54th St.



NIEHOFF
APPROVED QUALITY PRODUCTS

A FEW OF OUR
PRESSURE PURGER
JOBBERS

Abilene Auto Parts
Alabama Auto Parts
Peter Anderson Co., Inc.
Archenhold Automobile Supply Co.
Associated Parts Corp.
Automotive Equipment Co.
Auto Paint Distributor Co.
Automotive Parts & Gear Co.
Automotive Parts & Supply Co.
Auto Parts Warehouse Co.
Brunswick Auto Parts
Cameron & Barkley
Casher Brothers, Inc.
Cogdell Auto Supply
Consolidated Auto
Cord Equipment Co.
Cordele Auto Supply Co.
Dave Crockett Supply Co.
Crosby & Rust
Cross-Allen Co.
Detroit Supply Co.
Edwards Equipment & Supply Co.
555 Inc.
C. D. Franke
Garage & Auto Supply Co.
General Automotive Supply Co.
Grimm-Hansen-Treland Inc.
Hargett Electric Co.
Hines Motor Supply Co.
Loos & Dilworth Co.
McDevitt Equipment Co.
The McDonald Auto Supply Co.
Mills-Morris Co.
Motor Bearing Parts Co.
Motor Supply Co.
O'lean Sales Co.
The Ridge Co.
Roberts Automotive Supplies
Roper Harris & Dunn Co.
Rose Unit Parts Corp.
Sanel Auto Parts
Schacht-Tuck Co.
H. T. Schrader Co.
Severin Supply Co.
Siegl-La Salle Co., Inc.
Straus-Frank Co.
Struett-Patterson Hardware
Sunbury Auto Parts
Universal Automotive Supply
United Service



Order a
**PRESSURE PURGER
FROM YOUR JOBBER**

No moving parts — minimum maintenance.
Less than 30 minutes for complete set-up and
purge.

Easy to operate from ordinary AC-DC shop
current and air compressor.

Visible cleansing action loosens, dissolves, and
filters out rust, scale, grease and grime.

Triple-action, continuous reversing motion
thoroughly cleanses radiator and motor-
block water jackets.

Gleaming metal cabinet offers exceptional mer-
chandising appeal.

Triple Action Cleaning . . .

1. **BY HEAT**
2. **MECHANICAL AGITATION**
3. **BY CHEMICAL ACTION**

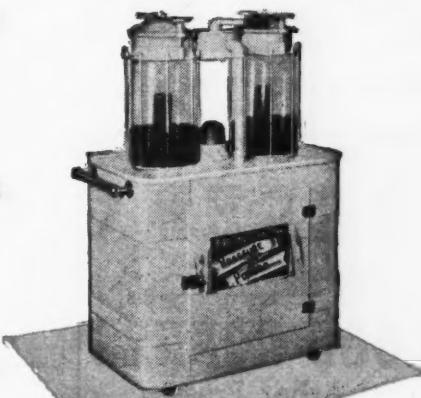


PRICE, \$50

PURGITE . . . the new 7 chemical
Cooling System cleaning compound
was developed especially for use in
the CHOLDUN PRESSURE PURGER.

These chemicals act as a water
softener . . . remove rust scale, lime,
iron and metallic deposits. They
dissolve grease tar, oil and dirt —
and will not harm radiator, hose,
aluminum or the motor block.

PACKAGE, 1/2 lb.



Choldun MANUFACTURING CORP.
New Haven, Conn.
SALES OFFICE: 512 FIFTH AVENUE, NEW YORK 18, N.Y.

Cal-Van **GARAGE TOOLS**



THREE-IN-ONE PULLER

WRITE
FOR
CATALOG

NO. 10 TIMING GEAR PULLER

GEAR PULLER

CARBON SCRAPER
LIGHT BULB PLIERS
RING COMPRESSORS
CREEPER CASTERS
BUSHING REMOVERS
REAMERS

Cal-Van
MACHINE PRODUCTS INC.
JACKSON, MICHIGAN U.S.A.

Complete UNIVERSAL JOINTS



Here are the Universal Joints that your customers will want to carry. Write today for complete information about the AMKO Line . . . the leader in the replacement field.

AVAILABLE NOW—For Chevrolet 33-36 Std.; 1934-36 Master; 37-39 and 40-47; for Ford 32-48; for Plymouth 34-47.

Also a complete line of Journal Assemblies. Write for circular.

At all Good Jobbers—Mfd. & Dist. by

AUTOMOTIVE MAN'FG CO., INC.
570 W. FULTON ST. CHICAGO 6, ILL.

Complete



MOOG INDUSTRIES INC.
ST. LOUIS, MO.

RUGER
Hydraulic
FLOOR CRANES
and Arbor Presses

RUGER EQUIPMENT CO., Inc.
2425 St. Clair Ave. P. O. Box 3821
Cleveland 14, Ohio Portland 8, Ore.

Wickwire New President of Automatic Steel Products

Arthur M. Wickwire was elected to the presidency of Automatic Steel Products, Inc., of Canton, Ohio, at a special meeting of the board of directors of the company. He has been associated with the organization since 1945 and until recently has held the position of vice-president and general manager.

Roffman Named Advertising Manager of Standard Motor

Alfred Roffman is the newly appointed advertising manager of Standard Motor Products, Inc., and the Hygrade Ignition Parts division, according to announcement from E. Fife, president.

FOR AUTOMOTIVE PARTS AND SUPPLIES . . .

Your NAPA Jobber
is a Good Man to Know!
NAPA
Is the Largest
Independent Organization
In the Parts Industry

See your
MANLEY
DISTRIBUTOR
FOR
AUTOMOTIVE
SERVICE
EQUIPMENT

DUNK 'EM IN GUNK H-S

COMPLETE DECARBONIZING
PROCESS
IN PACKAGE FORM

IMMEDIATE DELIVERY
1 GALLON OR A
TANK CAR

CURRAN CORP. LAWRENCE, MASS.

SPINNING POWER

a Companion Product
of Full-Spark Plugs
GLOBE-UNION INC.
MILWAUKEE 1, WIS.



AUTOPULSE ELECTRIC FUEL PUMP

- Used in any car or truck
- No vapor lock
- Instant starting
- No stalling in traffic
- Greater fuel economy
- Added protection



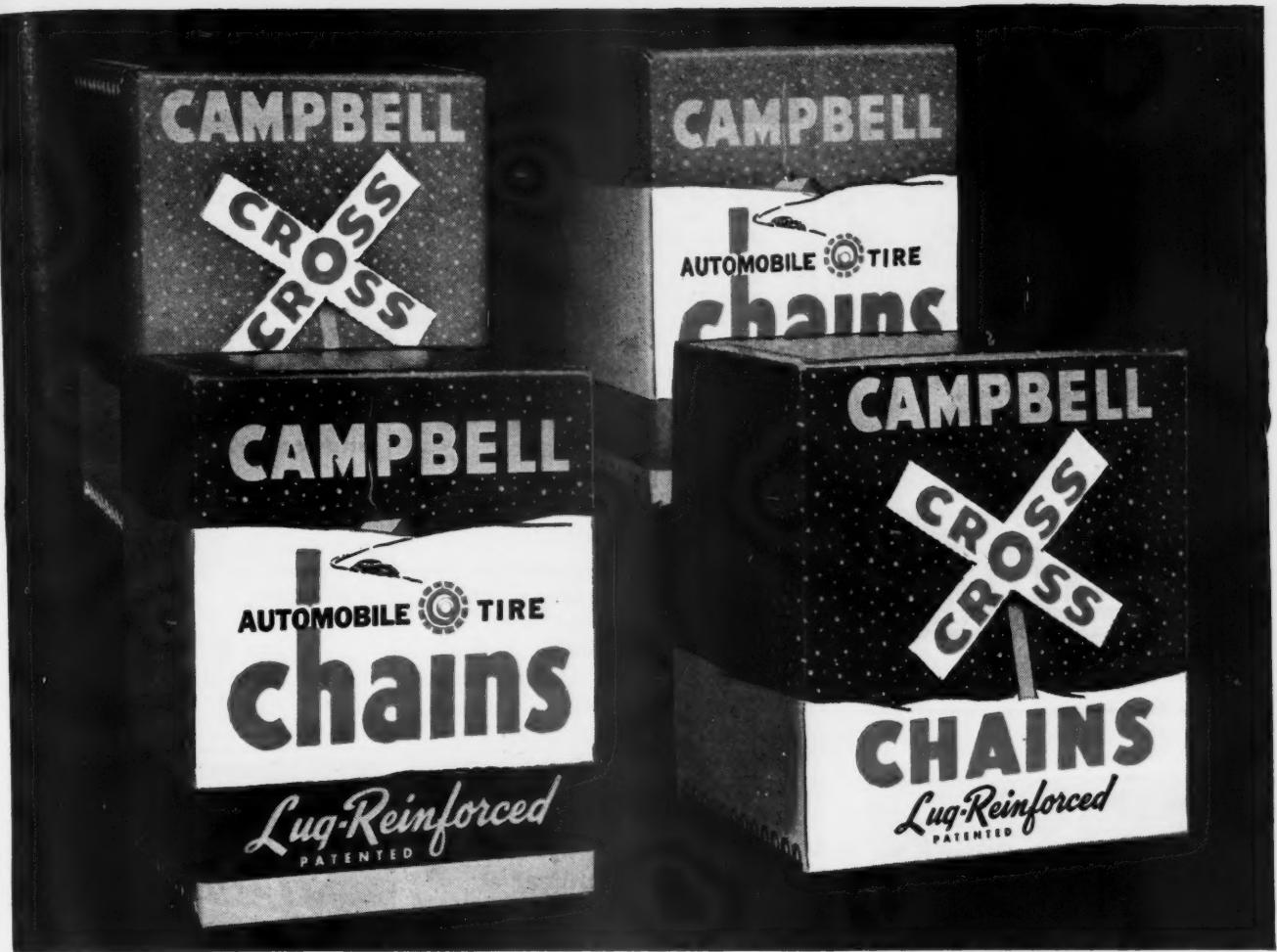
AUTOPULSE CORP., LUDINGTON, MICH.

When you call for
DURO CHROME
you're sure of getting


Doggone Good Tools!
DURO METAL PRODUCTS CO.
2649 N. Kildare Ave., Chicago 39, Ill.
Also Makers of DURO Machine Tools

Genuine SERVICE SPRINGS
INDIANAPOLIS "Measurably Better"
SPRINGS

SERVICE SPRING COMPANY
INDIANAPOLIS 6, INDIANA



NOW!... Sensational New Packaging for **CAMPBELL TIRE CHAINS**

Campbell Tire Chains are now packed in specially designed reinforced boxes. The durable construction of the metal-edge boxes for Lug-Reinforced* and Highway Service chains provides a handy storage box for the chains at all times. The boxes are plainly marked for easy identification when you store them or stack them in displays. A handy chain applier is included in each box. Chains are packed six boxes to a shipping carton. International Chain & Mfg. Company, York, Pa.

*U. S. Pat. No. 2,093,547 Canadian Pat. No. 223,568



CAMPBELL Lug-Reinforced TIRE CHAINS

THE CHAIN WITH THE SAW-TOOTH GRIP

CLUTCH FACINGS • RIVETS
CHARLOTTE '46 THAT BEE GONE!
HE CAN'T CATCH US

BRAKE SHIM STOCK • RELINING EQUIPMENT

SOUTHERN BRAKE LINING

HYDRAULIC BRAKE PARTS

SOUTHERN
FRICTION MATERIALS CO. - CHARLOTTE, N.C.



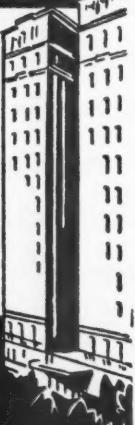
ARROW SAFETY DEVICE CO.
MOUNT HOLLY, N.J.

When in DETROIT

Stop at Hotel Wolverine. Centrally located on Elizabeth Street, a block east of Woodward, overlooking Grand Circus Park. Five hundred rooms, each with tub and shower. Good food. Ample parking space—garage service. Home of THE TROPICS, most unusual night spot in Detroit.

HOTEL WOLVERINE
The Goodwill Hotel

RATES FROM
\$2.75 SINGLE • \$4 DOUBLE



Write for this "PROFIT-PROVER" PLAN

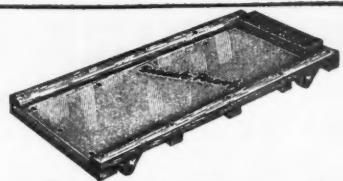
Prove the money-making performance of the Milwaukee "No Nick" Fender Hammer in your own shop. Attach this coupon to your business letterhead for complete information on our "PROFIT-PROVER" Plan. Mail to Milwaukee Electric Tool Corporation, 5330 W. State St., Milwaukee 8, Wis.

Kaiser-Frazer Names New Eastern Sales Manager

The Kaiser-Frazer Corporation, of Willow Run, Mich., has announced the appointment of Frank J. Brosnan as eastern divisional sales manager. During the past year he has been the Kaiser-Frazer regional sales manager in the Philadelphia region. Mr. Brosnan will direct sales operations in the New York, Boston, Philadelphia, and Washington regions.

Universal Battery Co. Names New General Manager

A. B. (Van) Sciver has been named general manager of The Universal Battery Company and the Coliseum Battery & Equipment Company, both of Chicago, according to an announcement by Albert H. Cohn, President.



Smash-Proof CREEPERS

Sold by all leading jobbers
HULBERT MANUFACTURING CO.
Ashtabula, O.

SALES BUILDING FUSE DISPLAY

for Counter
or Wall

See your jobber
or contact
us Direct



The NEW Exide

The dependable battery that millions of car owners want.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

WHEN IT'S AN EXIDE... YOU START

For greater undercoating PROFITS...

LOOK TO...

Write for a Davison Representative or authorized distributor to give you the full story.



D THE DAVISON CHEMICAL CORPORATION
BALTIMORE 3, MD.

GET LONGER,
TROUBLE-FREE PERFORMANCE
with
Pedrick
precisioneered
PISTON RINGS
in guaranteed
ENGINEERED SETS
For every Car, Truck,
Bus and Tractor

THE COMPLETE LINE

that
Completely Satisfies

Since 1906

The
Fitzgerald Mfg. Co.
Torrington, Connecticut



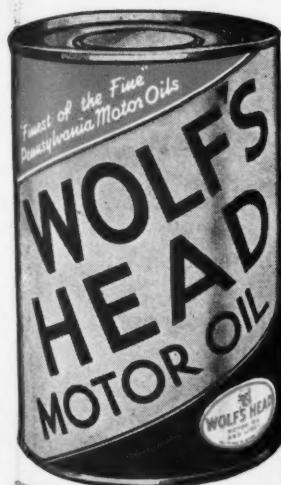
Fitzgerald
GASKETS

TRADE MARK
RESISTOFLEX
flexible
GASOLINE and OIL LINES
WITH COMPARTMENT
RESISTOFLEX CORPORATION
Belleville 9, New Jersey
PLANTS: BELLEVILLE, N.J.
ELKHART, IND. TORONTO, CANADA

Don't miss a chance to say ...

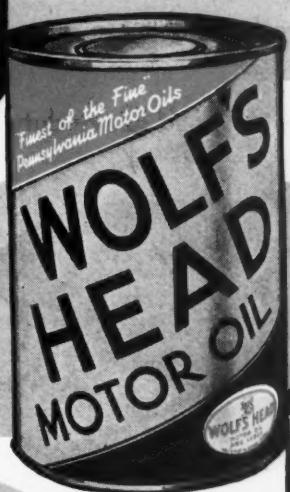
WOLF'S HEAD

IS THREE STEPS AHEAD



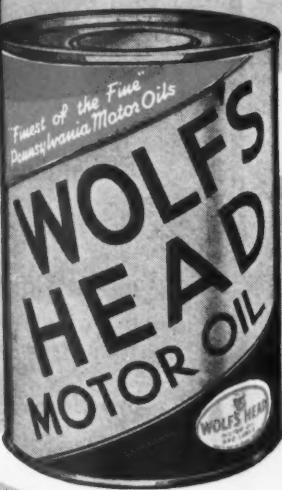
EXPERTLY CONTROLLED DEWAXING

keeps Wolf's Head
free-flowing.



DOUBLE DISTILLING

makes Wolf's Head richer,
tougher, more heat resistant.



TRIPLE FILTERING

removes all free carbon and other
troublesome impurities.

Every time a customer needs oil, say, "Mister, Wolf's Head Motor Oil is a superior refinement of only the finest Pennsylvania crude. The refining process of Wolf's Head has been carried *three steps further* than that of ordinary motor oils." There's real selling punch in this sales talk. For it quickly

tells people why Wolf's Head is better. Once your customers know what a great difference there is between Wolf's Head and ordinary oils they'll come back to you asking for Wolf's Head ... every time they need oil. Wolf's Head Oil Refining Co., Inc., Oil City, Pa., New York 10, N. Y.

100% Pure Pennsylvania—"Premium Grade"  P.G.C.O.A. Permit No. 6

**AMERICA'S GREATEST
AND MOST COMPLETE LINE
GIVES YOU EVERYTHING
IN SUPERBLY BUILT
ELECTRICAL TOOLS**

BUFFERS

Bench
Floor

DRILLS

Portable

FILES

Rotary

FLEXIBLE SHAFT MACHINES

GRINDERS

Angle
Bench
Brake drum
Carbide
Die
Disc
Floor
Portable
Precision
Swing frame
Tool Post
Vertical Spindle
Wet

HEAT GUNS

HOLE SAWS

NUT SETTERS

POLISHERS

Bench
Floor
Portable

REAMER DRIVES

SANDERS
Portable

SCREW DRIVERS

SURFACERS
Portable

TAPPERS
Portable

VALVE SEAT GRINDERS

VALVE REFINISHING SHOPS

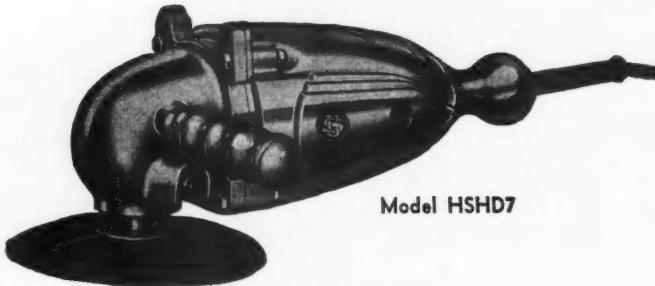


**UNITED STATES
ELECTRICAL
TOOLS**

• • • • • • •

PRECISION design . . . tested materials . . . engineered construction . . . flexibility . . . adaptability . . . unexcelled performance . . . every tool is electrically and mechanically correct before leaving the plant.

7" high speed heavy duty sander



Model HSHD7

Streamlined design with straight line ventilation for cool motor operation. 4800 rpm; for metal finishing, for removing scale and rust with wire brush; for smoothing welds and casting ridges; for curved or flat surfaces. U. S. 3-in-1 flexible rubber pad adapts the sander to curved surfaces.

CONTACT YOUR DISTRIBUTOR OR WRITE DIRECT

The UNITED STATES ELECTRICAL TOOL Co.
CINCINNATI, OHIO

IMPORTANT and TIMELY MESSAGE

TO EVERY INDEPENDENT AUTOMOTIVE REPAIR SHOP,
DEALER, GARAGE, SERVICE STATION, FILLING STATION

- Your market is every car owner in your section . . . every car, truck and bus owner that comes into your place. By handling nationally advertised brands of replacement parts, manufactured by independent producers, you can logically solicit and secure the business of owners of *all* types of cars, trucks and buses—the owners of motor vehicles who are your logical prospects.
- Crescent Wiry Joe offers you an independent line built by the largest independent wire mill in the world specializing in automotive wire and cable.
- Crescent Wiry Joe—a *complete* line of automotive wire and cable—is engineered by specialists in the manufacture of automotive wire and cable specifically for the entire field of the automotive replacement market.

THE CRESCENT COMPANY, Inc.



When next in our neighborhood, drop in—see how Crescent Wiry Joe automotive cable is made from copper to finished product in one plant under one roof.

PUROLATOR

Again proves
Engineering
Leadership
with the
**WING-NUT
Micronic
OIL FILTER**



**Sell 'em
at the pump!**



**No tools needed to
change filter element**



**No need to handle
a dirty filter element**

**Filter element change
time cut to seconds**

PUROLATOR
MICRONIC OIL FILTER

KEEPS OIL FREE FROM ABRASIVES

3 points that build good will on glass replacement jobs

It pays to show customers that you've used:



PLATE GLASS—for maximum freedom from distortion.

SAFETY PLATE GLASS—two panes laminated with a sheet of clear, tough plastic.

L·O·F GLASS—a name that is recognized for top quality.

This mark is etched on every
piece of L·O·F Safety PLATE Glass

HI-TEST
L·O·F
SAFETY
PLATE

When customers see the stenciled identification "L·O·F Hi-Test Safety Plate" on glass you have put in their cars, they know you have provided better glass for safer seeing. It helps build their confidence in you.

Be sure this quality reminder is clearly visible after all your glass replacement jobs.

Libbey · Owens · Ford Glass
Company, 7578 Nicholas
Bldg., Toledo 3, Ohio.

Rear View Mirrors
E-Z-I Rear View Mirrors
Visor Vanity Mirrors
LIBERTY MIRROR DIVISION
Brackenridge, Pa.

WHEREVER VISION IS IMPORTANT
USE L·O·F Polished Plate GLASS



LIBBEY · OWENS · FORD
a Great Name in GLASS

an improved and safer **WITCOTE*** **UNDERCOATING**

4

something new

LISTED WITH



UNDERWRITERS' LABORATORIES, reexamination service

The new WITCOTE #4 UNDERCOATING which provides undercar protection for your automobile has 4 big advantages for you...

- 1 ... WITCOTE #4 UNDERCOATING is listed with Underwriters' Laboratories Reexamination Service. In respect to fire hazard, WITCOTE #4 UNDERCOATING is rated 30 according to schedule in which... ether rates 100; gasoline rates 90-100; alcohol (Ethyl) rates 60-70; kerosene (100 F flash) rates 30-40; paraffin oil rates 10-20.
- 2 ... WITCOTE #4 UNDERCOATING stops car vibration and tin-panny noises... prevents squeaks... cushions the underbody against flying sticks, stones, gravel... seals out fumes, dust, heat and cold... prevents undercar rust and corrosion.
- 3 ... WITCOTE #4 UNDERCOATING is easier to apply—saves wear and tear on spraying equipment. It can be applied at low pressure (30-40 pounds spraying pressures). No overspray, therefore no masking required.
- 4 ... And because of these advantages, WITCOTE #4 UNDERCOATING costs you less to apply, sprays more cars per drum... increases your list of satisfied customers. Properly applied, WITCOTE #4 will last the life of a car. *Fully registered



Start cashing in on WITCOTE profits immediately. Get further information today.

WITCO CHEMICAL COMPANY

Established 1820



435 NORTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

OFFICES IN PRINCIPAL CITIES

Inlite's Original Equipment Quality means More Satisfied Customers, More Profits!



ONE top-grade Inlite line fits almost every need...cuts inventory, speeds turnover!

Imagine . . . one line of 30 Inlite matched brake sets fits 448 models of cars and trucks! That means minimum investment, faster turnover, better business for you. Each Inlite set is made uniformly to meet highest General Motors standards of quality. Each set is matched to have the frictional values for the brake and vehicle for which it is designed. That means better performance, more satisfied customers, more sales and profits for you!



**ORIGINAL EQUIPMENT
QUALITY!**
•
**ONE TOP-QUALITY LINE,
NO SECONDS!**
•
PRE-SOLD MARKET!
•
SATISFIED CUSTOMERS!



INLITE

Brake Linings

INLAND MANUFACTURING DIVISION, General Motors Corporation, DAYTON, OHIO

When writing to advertisers please mention Motor Age

make us
PROVE this -

for trucks, tractors, autos

ENGINAIR

**the only
satisfactory engine-operated
tire-pump on the market!**

- ★ Guaranteed two full years!
- ★ Pumps only cool, clean air!
- ★ Used by armies of 6 nations—not a single complaint!
- ★ Recommended by leading tire and vehicle manufacturers!
- ★ Gives many years wonderful service!

Actual Tests PROVE Enginair's best!

Maximum pressure developed by ENGINAIR 105 lbs.
Maintained full pressure thru many years.

Maximum pressure developed by Pump "G" 65 lbs.

Maximum pressure developed by Pump "K" 80 lbs.

Maximum pressure developed by Pump "P" 64 lbs.

Pressures varied from 52 to 64 lbs.

Maximum pressure developed by Pump "S" 84 lbs.

Pressure dropped to 45 lbs. during tests and never recovered.

Maximum pressure developed by Pump "S2" 78 lbs.



ENGINAIR—with air gauge, 16 foot hose, one pumping element, retail \$4.75.

ENGINAIR—without air gauge, 12 foot hose, one pumping element, retail \$2.85.

To reduce investment, stock hose sets and pumping elements separately!

Here's why patent protected ENGINAIR excels and develops such high pressure, **FAST PUMPING!**

- ★ Enginair patents make possible very small, highly efficient pumping elements that fit all vehicles without interference (even farm tractors) This cannot be done with adapters.
- ★ Each different sized pumping element is a specially designed, very efficient unit—no loose parts, no leaks—quick and convenient for service work.
- ★ Air chuck is instantly attached or detached from tire valve no matter how badly the tire valve thread is damaged.
- ★ Damaged piece of hose may be cut out and connection made without tools. Just unscrew and screw connecting ring off and on with fingers.
- ★ High pressure gives fast pumping and wide field of usefulness.

DEALERS! ORDER ON MONEY BACK GUARANTEE

If your jobber doesn't stock ENGINAIR, order direct. Give jobber name. ENGINAIR — guaranteed two years — gives you fair mark-up. Order ENGINAIR today at regular dealer price or write for descriptive folder, price list and name of jobber nearest you.

ENGINAIR—FOR ALL VEHICLES WITH PNEUMATIC TIRES!

Wonderful for those who must be independent of service stations—farmers, ranchers, contractors, trailer owners, hunters, fishermen, tourists.

SIMPLE TO USE... INSTALL ENGINAIR IN ONLY ONE MINUTE!

to any gasoline powered vehicle of two or more cylinders without interference.

ENGINAIR IS PROTECTED BY U. S. PATENTS
No. 1888758 • No. 2191968 • No. 2191970

VEHICLE MANUFACTURERS

Export Departments find Enginair is a real necessity for export vehicle business. Write for full details.

G. H. MEISER & CO.

ESTABLISHED 1906

327 EAST MARQUETTE ROAD

CHICAGO 37, ILLINOIS

NEW

DeLuxe-Baldwin Cartridge With Time-Proved DeLuxe Cleansing Effect . . . for All Makes of Filters

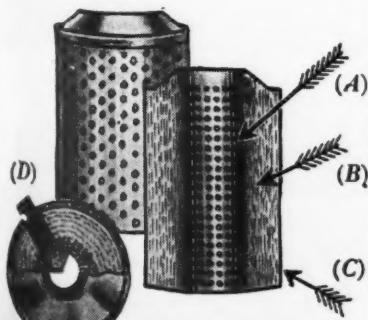
Here is the new "insides" offered by DeLuxe. It is heir to the know-how that brought the results described on this page. Here's the HOW of it:

Oil contains impurities that get to be like varnish. Oil also contains large and small particles of dirt. It is better to ABSORB the sticky impurities than try to strain them out. Hence absorbent cotton is the filter medium here.

Now, ANY cartridge which is fine-meshed where the oil enters will strain out the gummy residues and all of the dirt particles AT FIRST. Then the face of the cartridge cakes-up and the filter QUILTS.

That is why the DeLuxe-Baldwin Cartridge is PRESSURE-WOUND. It is made with an endless absorbent cotton thread wound criss-cross on the core, forming innumerable absorbent layers. AND—these layers are soft-wound outside where the oil enters, becoming increasingly dense toward the core. WHY? To take out the BIGGER particles at the start, and the smaller ones as the oil filters through—instead of covering the outside with a cake of gum plus ALL the dirt in the oil.

Pressure-winding prevents sagging of this cartridge. It prevents the formation of hard-and-soft spots and by-pass channels. Even the special fibre cover filters out dirt. It's ALL filter, ALL of its functions to take out dirt and varnish, and it stays on the job at top efficiency. You can use these cartridges with confidence.



(A) Dense Inner Layers Retain Small Particles

(B) Soft-wound Outer Layers Trap Big Pieces

(C) Absorbent Fibre Container

(D) Cotton Throughout—Absorbs Impurities



RESULTS TALK!

... bus, truck, engine builders overwhelmingly vote "AYE" for DeLuxe*!

PERFORMANCE TALKS!

12 of 13 Award Winners† are DELUXE-equipped!



• Different—for good reason. A genuine DeLuxe Cartridge has supporting inner spring—can't sag and quickly becomes useless.

Inner metal cone feeds oil the L-O-N-G way for thorough cleansing.

THIS New DeLuxe-Baldwin Cartridge and THIS Overwhelming DeLuxe Preference SPELL Big NEW PROFIT for YOU!

Of course, DeLuxe-equipped cars and trucks have always been a great and growing cartridge replacement opportunity. But now, with the new DeLuxe-Baldwin Cartridge, EVERY cartridge-type filter is a DeLuxe sales opportunity; now you can get ALL your cartridges from DeLuxe, with user satisfaction assured. Better ask your Jobber now about DeLuxe-Baldwin and DeLuxe Cartridges. There's plus profit waiting for you!

DELUXE PRODUCTS CORP., 1404 LAKE STREET, LAPORTE, INDIANA

R-2801-R



*Standard or optional equipment.

†National Bus Transp. Efficiency Awards, 1947.

MONEY-SAVING

fast, solvent degreasing



COLD-SPRAY

SOAK-TANK



use OAKITE COMPOSITION No. 9

OAKITE Composition No. 9 mixed with kerosene or other distillate gives you a powerful solution for quick removal of grease, dirt, gummy oil, tough carbon or hydraulic fluids.

Solutions of Oakite Composition No. 9 used in cold spray or soak tank quickly penetrate and loosen grime. Air-water pressure rinse leaves surfaces clean for quick inspection. Oakite Composition No. 9 is completely safe to personnel, and it will not harm lacquer-insulated motor wires or painted fenders, hoods.

FREE Booklet Tells How

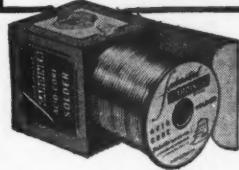
Write for FREE Oakite Auto Booklet of details on this and hundreds of cleaning jobs; data on Oakite Sprayer and Air-Water Rinse Nozzle.

OAKITE PRODUCTS, INC., 240 Thames St., NEW YORK 6, N.Y.
Technical Representatives in Principal Cities of U.S. & Canada

OAKITE
REG. U.S. PAT. OFF.

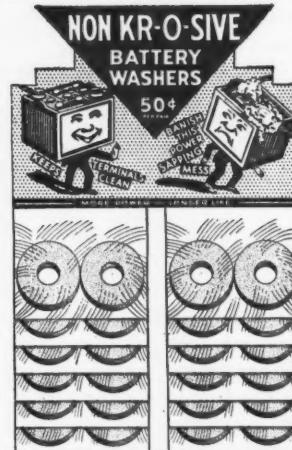
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Federated
METALS DIVISION
AMERICAN SMELTING AND REFINING COMPANY
WHITING, INDIANA (CHICAGO)



CORROSION causes most BATTERY AND MOTOR TROUBLE

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Council Bluffs, Iowa

National GARAGE TOOLS "Tough Tools" for Tough Jobs"

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Made of high grade alloy steel forgings and machined accurately and heat treated for long dependable service. Handles the following service. Thread Sizes: $\frac{5}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", $\frac{7}{8}$ ", 1 ", $\frac{1}{8}$ ", $\frac{1}{4}$ ". Cadmium finish.

SEE your automotive jobber and ask for NATIONAL by name—the name you can trust for "tough tools for tough jobs." If out of stock write or wire

National Machine & Tool Co., Inc.
JACKSON, MICHIGAN, U.S.A.

HEXSET TAPS & DIES

Great for Rethreading in cramped quarters as well as for cutting new threads. Hex Dies can be used with end wrench or socket wrench. T-Handle Tap opening for extension wrenches.
Rimac #77 Hexset: 11 one-inch hex dies, 11 taps $\frac{1}{4}$ " to $\frac{1}{2}$ " NC and NF, also $\frac{1}{4}$ " pipe thread, 9" Hex Die Stock, with guides for starting new threads, Tap Wrench. Polished hard wood box. A set you'll be proud to own.
Ask your jobber or write us.

RINCK-McILWAINE, INC., 16 HUDSON ST., NEW YORK 13, N.Y.

RIMAC

PROFIT POINTS FOR DEALERS:

- \$ The JAWA "250" is a fast seller.
- \$ Liberal dealer discount means substantial profits.
- \$ Immediate delivery.
- \$ Liberal franchise terms.
- \$ Extra income from JAWA servicing.
- \$ Additional profits on replacement parts sales,
- \$ Backed by extensive promotion—local,
national and point of sale.



GOING PLACES!! ...with sales and profits

CASH IN ON THE MOTORCYCLE BUYING SEASON JUST AHEAD! If you are interested in a Dealer franchise in your community write us for complete information on the JAWA "250" and your profit-making possibilities as an authorized JAWA Dealer.

The entirely new streamlined JAWA "250" is light in weight but packed with power. Its superior design gives the maximum in riding pleasure at minimum operating expense. For business or pleasure the JAWA "250" is truly the Motorcycle of Tomorrow.



JAWA MOTORCYCLE COMPANY

DIVISION OF INDUSTRIAL OPERATIONS, INC.
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This Trademark
Stands For
Precision Bearings



On every Pratt Tapered Roller Bearing, the clearly stamped trademark is your customer's assurance of accurate fit and dependable service. Made of the highest grade special-alloy bearing steel, they're produced by the very latest type of precision equipment.

More than 600 numbers make up the Pratt line. Each bearing is individually packed in a neat carton. Prices are fully competitive.

For more than half a century, Pratt Bearings have been favored by dealers, repairmen and servicemen throughout the world. You'll find the Pratt Jobber a prompt and dependable source of supply.



WM. E. PRATT MFG CO.
JOLIET Established 1893 ILLINOIS



YOU SAVE MONEY when you use Bendix* Metalelene for cleaning *all* metal parts. Metalelene has a physical action rather than chemical—"lifting," not dissolving, thus allowing the solution to be used and re-used indefinitely. Merely dip the dirty parts into the cold solution for a few minutes, then take them out free from all unwanted deposits. Use Metalelene for greater efficiency and economy.

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BENDIX PRODUCTS DIVISION of
SOUTH BEND 20, INDIANA



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Motor
Vehicle**

A PROSPECT FOR
ONE TO FOUR
Thomson
ACCESSORY
LIGHTS

Incomparably Beautiful...

Mechanically Perfect... Greatest

Light Value on
the Market

SEALED BEAM BULBS

Two Sizes:

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— immediate profits!

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Thomson
BACK-UP LIGHT

STANDARD-THOMSON CORPORATION
Dayton 2, Ohio, U.S.A.



HERE'S THE SET-UP ON DELCO'S "PACKAGED PROFITS"

You can now purchase the most popular Delco Home Radio models in "profit packages"—each package complete with an attention-getting new display stand which holds six models!

Think what this means—all the Delco "best sellers" grouped and displayed to best advantage in your store!

Popular!

Only those models which have proved most popular are selected for these groups. And each model is a quality radio, backed by three great names: *General Motors*, *Delco Radio* and *United Motors Service*.

Pick your profit!

There are four "Profit Packages" in the Delco Home Radio line. For information on these and on the other popular United Motors lines, talk to your United Motors distributor, or write to United Motors Service, General Motors Building, Detroit 2, Michigan.



DELCO PACKAGE NO. 1502

Twenty-four assorted Delco table model radios, including one combination radio and record player and one display stand.

DEALER'S PROFIT.....\$249.67

Ask about other "Profit Packages" not listed here.

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Fifteen assorted Delco console and table model radios and radio-record player combinations and one display stand.

DEALER'S PROFIT.....\$298.12



UNITED MOTORS SERVICE

DIVISION OF GENERAL MOTORS CORPORATION

GENERAL MOTORS BUILDING, DETROIT 2, MICHIGAN

DELCO Batteries

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FROM THIS CARTON COMES THE ...



... that wins more profit now and tomorrow

PISTON RINGS THAT DO THE JOB RIGHT

in the Engine, in your Bank Balance

"DOUBLE LIFE" PRINCIPLE

another

"REP"-and-PROFIT Builder

During break-in, gentle cast iron ring pressure permits Ramco 10-Up Piston Rings to seat surely without harsh pressure (top drawing). Afterward (lower drawing) the inner ring approaches and finally contacts both iron and steel Spiro-Seal Rings for positive, gentle oil-and-power control and long life—"Double Life"—all stabilized by the inner spring ring.



Ramco patented, exclusive piston ring features provide the kind of job that can be guaranteed for 10,000 miles, or a year ... a job that you can sell *at a fair price*, not just "a job at a price" ... a job that builds your "REP" for top-quality work. Beyond that, when you tie into Ramco's nationally advertised RE-POWERING Program you sell all four: compression, carburetion, ignition AND cooling—not a piston ring job alone. Ask your Jobber to explain the RAMCO RE-POWERING Program. It will help build your "REP", it will make *more profit now*, it also insures profit tomorrow, when competition is sure to be stiffer.

for 10,000 miles and UP

CALL for **RAMCO 10^{up}**

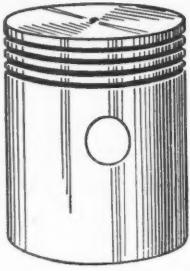
The 10,000-Mile (or One Year) Guaranteed Rings for Re-bore or Re-ring, Car or Truck



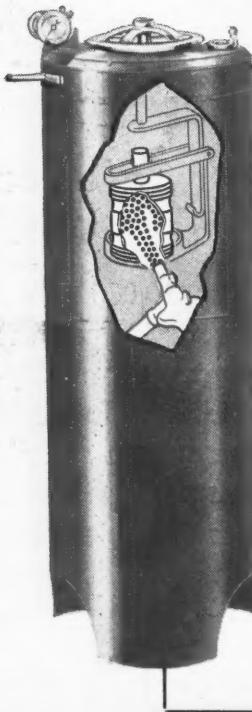
Ramco RE-Powering is
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Products of Ramsey Corporation, 3718 Forest Park Blvd., St. Louis 8, Mo. Makers of RAMCO Piston Skirt Stabilizers... Seal-Tite Piston Rings... Oil-Tite Piston Rings... Spirolox Retaining Rings, Spiro-Seal Grease Seals and Dust Seals... Famous RAMCOizer Machine for reshaping collapsed piston skirts. Factories: St. Louis and Sullivan, Mo.; Fruitport, Mich.; Toronto 8, Ontario, Canada. Copyright 1948, Ramsey Corporation. D-0728

You can offer a better job for less money with Koetherizing*



Your American Hammered jobber
can make collapsed pistons better than new
in a matter of minutes.



KOETHERIZING
expands pistons accurately within .001 inch!

KOETHERIZING
resizes pistons permanently!

KOETHERIZING
restores both cast iron and aluminum pistons!

KOETHERIZING
doesn't make pistons weak or brittle!

KOETHERIZING
doesn't create piston-boss distortion or disturb piston pin fit!

KOETHERIZING
doesn't add weight to the piston!

Don't include the cost of new pistons when you quote on a re-ring job or an engine overhaul—*Koetherize the old pistons!* You'll get a better job because each Koetherized piston fits its own cylinder exactly. You can't do *that* with a set of new pistons! Koetherizing is *permanent*...Koetherized pistons won't collapse again.

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**KOETHERIZE EVERY
PULLED PISTON**

Koetherizing is an exclusive, patented process which expands pistons under precision control within tolerances of .001 inch. Proved over 10 years of service. Be sure to get the original, genuine Koetherizing.



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